

DETOXIFY

OR

DIE



Sherry A. Rogers, M.D.



"This is another amazing timely treasure chuck full of practical "how to" pearls you need to know to help yourself and your loved ones. I sincerely believe this will save you from future devastating health heartaches and from literally becoming a toxic dumpsite. This book will raise your awareness and tell you why and what you need to and must do. Right now you are holding the answer in your hand to get and stay well."

Doris J. Rapp, M.D., F.A.A.A., F.A.A.P., F.A.E.M.
Author of Is This Your Child's World?
and Chemical Timebomb

"Sherry Rogers, M.D., has been a leading environmental medicine authority for more than twenty years. She has authored books for both the health professional and general public that have contributed significantly to the 'changing of the guard' in medicine. Her most recent book, Detoxify or Die is a "tour de force" that demonstrates the importance of understanding the role that toxins both from the outside world and produced inside our bodies have on the origin of complex illnesses. The book is highly referenced from the medical literature and goes beyond just telling us of the problem, but provides ways of treating the problems. I believe that this book should have an important place in the education of all people concerned about their health as they grow older and what they can do to improve their health outcomes".

Jeffrey Bland, Ph.D., F.A.C.N.
Chairman, Institute for Functional Medicine
Author of Genetic Nutritioneering

"Dr. Sherry Rogers, as always, has hit the nail on the head. She outlines the scope of chemical pollution in a knowledgeable and understandable manner. She then shows in detail how to prevent disease and treat chemical overload. This is done succinctly and precisely. I highly recommend this book to anyone seeking optimum health and creativity."

William J. Rea, M.D., F.A.C.S., F.A.A.E.M.
Founder, Environmental Health Center – Dallas
Author of Chemical Sensitivity: Vol I-IV

ISBN 1-887202-04-8



DETOXIFY

Or

DIE

Sherry A. Rogers, M.D.

**Sand Key Company, Inc.
PO Box 40101
Sarasota, FL 34242**

This book is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering medical or related professional services and that without personal consultation, the author cannot and does not render judgment or advice about a particular patient or medical condition. If medical advice is required, the services of a competent professional should be sought. While every attempt has been made to provide accurate information, the author and publisher cannot be held responsible for any errors or omissions. The final decision to engage in any medical treatment should be made jointly by you and your doctor.

Detoxify or Die

Sherry A Rogers, M.D.

Copyright © 2002 by Sand Key Company, Inc.

All rights reserved, including the right to reproduce this book or portions thereof in any form whatsoever.

Sand Key Company, Inc.
PO Box 40101
Sarasota, FL 34242

1-800-846-6687
www.prestigepublishing.com

Library of Congress Control Number:

ISBN: 1-887202-04-8

Printed in the United States of America

Table of Contents

Dedication	i
About the Author	ii
Introduction	iii

Chapter I

Environmental Toxins are Everywhere	1
In our Foods	2
Hormone Havoc Created By Plastics and Pesticides	6
Menacing Metals	8
In Our Air and In Our Breath	10
Home, Toxic, Home	13
In Your Water	18
In Your Body	26
Pesticides: The Most Pervasive and Potent Polluting Poisons	26
Bring on the Doubters	33

Chapter II

Environmental Toxins Stockpile in the Body	42
All Humans Have Chemicals in Storage	42
Detoxification Depletes Nutrients	46
Detox Phases I & II	47
The Simple Detox Cocktail Solution	50
Winning the War Against ROS, the Cause of All Disease	52
Fight Disease With Food Power	56
The Trans Fatty Acid Travesty	60
Are You Due for an Oil Change?	62
Boosting the Rest of Your Detox System	65
The Detox Enema	65
IndolPlex for Hormone Rescue	67
Estronex Differentiates Between Good and Bad Hormones	70
Lipoic Acid, the King of Antioxidants	72
Glycine	75
Combination Products	77
Detox Your Gut	79
Kyolic “Kicks Butt” With Intestinal Organisms	81
SeaVive Revives the Leaky Gut	83
Restoring the Good Bugs	85

Chapter III

Environmental Toxins Cause All Human Disease	89
Myth: Small Amounts Are Harmless	89
Environmental Chemicals: The Master Mimic in Medicine	91
Office Pesticides Can Trigger Cancer	102
Diseases of the Nervous System: Brain Rot	104
Parkinson's Disease - - A Disease Example	107
Pesticides - - A Chemical Example	111
Pesticides: Paralyzers of the Immune System	112
Cadmium Curse	115
Cadmium Causes Cancer of the Prostate	119
The Causes and Cures of Silent Accelerated Aging	121
The Never-Ending Source of Environmental Pollutants	123
The Perfect Crime	125
We Are a Polluted People	129
Gut Level Causes of Disease	139
Toxic Teeth: From Amalgam to Brain	140
Are Pro-Mercury Dentists Getting Dumber?	142
Mercury, the Great Medical Mimic	143
Mercury Detox Cocktail	148
Add Punch to Your Mercury Detox Cocktail	148
Heavy Metal Provocation Test	152
When is Your Biological Clock Set to Ring?	152
Weaving the Web of Wellness	154
Chemicals Wreak Hormone Havoc	155
Pervasive Plastics Lead to Precociousness	159
Plastic Foods Lead to Plastic Penises	163
The Era of Epidemic Epidemics	163
Power Over Plastics	166
Take Any Pollutant, Drug, or Disease	171

Chapter IV

Getting Rid of Environmental Toxins Reverses Disease	177
The Invisible Crux, the Detoxification System	181
Detox Depletion Leads to Disease	184
The Medicine Merry-Go-Round	187
The Secret of Sweat	191
Sauna Proven in the Toughest, Most Resistant Cases	193

The Superior Sauna - - FIRS (FAR Infrared Sauna)	199
The Hot Solution for Body Pollution: FIRS	202
FIRS, the Only Sauna Proven Safe for Elderly, Severe End-Stage Heart Patients	202
The Heart as Allergic Target Organ	205
How is the FAR Infrared Sauna Different?	208
FIRS Cures the Most Mysterious Cases	213
Where Is Your Focus?	218

Chapter V

How to Detoxify	243
Sweating Out Toxins, As Easy As 1, 2, 3	244
General Rules for the FIR Sauna	244
The Sauna Program With Detox Boost Emphasis	259
The PC Key	265
Laboratory Tests	266
Rx Minerals and Heavy Metals	267
Fatty Acids	268
Detoxification Capacity Profile	269
Organic Acids	270
Digestive and Microbial Stool Panel	273
Estronex Test	273
Lipid Peroxides	274
ION Test	275
Testing Chemicals in the Blood	276
Home Tests (No Prescription Needed)	276
Future Tests	277
Directions for Community Saunas	278
Special Uses for the FIR	280
QRS: Boosting Your Body's Battery	281
High Tech Pollution Requires High Tech Solutions	283
Injury and Healing Generate Electricity	285
Osteoporosis Cured With Pulsed Electromagnetic Fields	288
How Does the QRS Work?	292
Regeneration With Electromagnetic Fields	296
Harmonic Healing and Resonance Rejuvenation	301
Silicon for the "Spark of Life"	304
Hydrate II	310
The Total Load	311

Chapter VI

Resources

319

Chapter VII

References

354

Index

403

Dedication

"I, Sherry, take thee, Rob, to be my lawful and wedded husband To be at your side through sorrow and joy, in sickness and in health, to love, obey and to cherish you always. I promise you this for as long as we both shall live."

I was so choked with emotion that I never actually uttered a single word during the ceremony, but barely managed to nod my head in agreement as the minister said the words for me. In the end, I couldn't even sob out the words I had so looked forward to saying, "I do". Just to make sure it was legal, Rob said, "She does."

When I took this vow 32 years ago, I thought it was impossible to be any more in love with a human being than I was right then. I was wrong. That love was a drop in the ocean compared to now. One of the easiest directives in the Bible for me is "submit to your husband as to the Lord." (Eph 5:22) For truly God's greatest gift to me is, and always has been, Luscious.

About the Author

Sherry A. Rogers M.D. is a diplomat of the American Board of Family Practice, a diplomat of the American Board of Environmental Medicine, a Fellow of the American College of Allergy, Asthma and Immunology, and a Fellow of the American College of Nutrition. She has been in private practice for 32 years in Syracuse NY, has published over a dozen books (each described in the back of this book), a referenced newsletter for 13 years, 19 scientific papers, and chapters in textbooks. She has presented her original scientific and clinical work in 4 international indoor air symposia and given well over 100 physician lectures in 6 countries in medical schools, hospital residency programs, CME-accredited symposia and physician refresher courses, does over 100 radio shows a year, TV, magazine articles, personal consultations with non-patients, and more.

Introduction

No doctor can cure you. No medicine can cure you. But *you can cure you*. I know, you have been told that "There is no known cause and no known cure for what you have. But lucky for you, there are prescription medications which you can take for a lifetime."

You have been brainwashed into believing that the diagnosis given to your condition, *a mere label*, is the end of the line. But nothing could be further (and more dangerously) from the truth. In fact, the name or label that has been given to your collection of symptoms is totally inconsequential. The only thing that matters is **what has caused the symptoms** and whether you have enough knowledge to reverse and get rid of that cause. This book gives you that knowledge.

Or if you are well, you no doubt have the perennial fascination with the notion of **revitalizing or regenerating yourself and reversing aging**. Or perhaps you devour potions, pills and promises for that elusive sports' edge. This book will end your eternal search for the **fountain of youth**. For the closest we can come to turning back the hands of time is to give ourselves a body with a reduced chemical load, as we had in our youth. Sadly, in this era even many babies are currently born with dangerous levels of toxins passed from their mothers while still "safely" in the uterus. These toxins cause birth defects, learning disability, hyperactivity and set the stage for infant and childhood cancers.

If you are serious about healing, then brace yourself for a crash course in curing whatever ails you. I'll take you step-by-step through the most important paradigm shift of your

life, complete with the scientific backup for physicians and doubters. And for those who hate to read, I'll feed it to you via cartoons and captions. I'll do anything I can to empower you. For the evidence will astound you that medicine has had the answers for perfect health all along. The secret is in getting your body so chemically unloaded and nutrient primed, that it heals itself.



No doctors can cure you -- -- -- but you can.

For every symptom is an opportunity to find and fix whatever is broken. Taking medications merely shuts off the broken pathway, allowing you to continue ignoring the cause. Meanwhile the disease-causing deficiencies and toxicities remain undiscovered and uncorrected, eventually triggering new and seemingly unrelated symptoms. We were designed to live well past our 90s and die in our sleep with no disease labels and no medications. But the median survival in the U.S. is 74, and then only with the help of specialists, surgeries,

and a multitude of drugs which eventually hurry your demise.

My plan for you is simple:

- Chapter I presents the incontrovertible evidence that environmental chemicals are everywhere and we cannot avoid them.
- Chapter II shows that not only do environmental chemicals get into the body, but once there, we do not have the metabolism to get rid of them, so they silently stockpile.
- Chapter III shows how these stealth toxins, that are in all of our bodies, are the underlying cause of nearly all disease.
- Chapter IV shows that getting rid of these toxins gets rid of even the most hopeless and baffling diseases.
- Chapter V shows you how to do it in your own home, while rounding out your knowledge with further protective and therapeutic facts you need to know to become and remain independently healthy.
- Chapter VI gives you the sources for all products and scientific references for everything in this book.

If the fact that you are responsible for your health does not scare you, if you are eager to step into the fountain of youth, or get rid of life-sapping symptoms, if you are eager to end the futile drug-dominated battle against disease, turn back the hands of time and get truly well, then let's go.



You have the world at your fingertips and don't even know it. You can turn back the hands of time, putting your body back where it was when you were healthier. Sounds like the fountain of youth? It's the closest you'll ever get to it.

Note: The resources section contains the references for facts in this book. In an attempt to reduce clumsiness for the reader, I have put selected reference citations after certain statements, but not all of them. However, the scientific evidence for everything here is in the references. In fact, this book contains many more references than I cited after select statements. If a citation is not found in that chapter, it is because it has been used in another chapter as well. I'm trying to avoid a 12 lb. text for this revolutionary concept. As you will note, many of the reference titles tell the story by themselves.

Chapter I

Environmental Toxins Are Everywhere

Imagine the most pristine places on earth -- -- untouched by man-made cancer-causing chemicals. How about a fishing trip to the great Lakes on the U.S.-Canadian border, inaccessible except by helicopter with pontoons. There are no roads, no industry, no civilization, just glorious nature.

Or let's take a cruise hundreds of miles off shore in the Caribbean, Gulf of Mexico, the Mediterranean, or the Atlantic. Sadly, scientists have found disturbing levels of modern man-made chemicals in the wildlife, plants, seaweeds, fish, and waters in all of these areas.

Surely, you say, 20th century man's footprint has not yet reached the frozen Arctic, famed for Eskimos living in ice igloos, existing on flesh from the sea. But studies (Muckle, Dewailly, Bjerregaard, Wormworth, Jacobson, Jenson) of the breast milk, for example, of Inuit Indian mothers reveal some of the highest levels of modern chemical poisons. In fact if they brought their milk to the U.S. for disposal, it would legally have to go to a toxic waste dump. We have truly accomplished our dubious mission in less than a century. We have conquered the world with pollution. There are no pristine areas left without a trace of man's manufacturing might.

Industrial smokestacks disseminate into the air the leftovers from plastic manufacturing such as dioxins and PCBs. From here, clouds carry these most potent triggers of cancer ever known to man to every continent and every body of water.

Taken up by the soil, then plants, then animals, then humans, no longer are there any pure bodies. Let's see why not.

In Our Foods

The plastic wraps swaddling your fruits, vegetables, and meats in your grocery cart look harmless enough. So do the Styrofoam trays that hold them and the plastic bottles for water, soda, milk, ketchup, fruit juices, and even infant formula. But the **phthalates** that outgas from these plastics, so ubiquitous in our food and beverage packaging, leach into our foods.

In fact, we eat so many plastics each day that the government has established an average daily amount that we ingest. And once inside our bodies, these phthalates or plastics tightly hook onto our cell parts where they gum up the works. For example, they damage hormone receptors, leading to loss of sex drive and energy, or they damage brain chemistry leading to learning disability and hyperactivity, or they accumulate in organs and trigger cancers of the prostate, breast, lung and thyroid.

Think of the purest food you can -- -- breast milk. Unfortunately, breast-fed infants with immature livers are at an even greater disadvantage. Even if they do not receive their **phthalates** (plasticizers) from a plastic formula bottle, they can consume illegally high levels of plastics from their mothers' breasts. For the plastics that leach into her foods are transferred to the baby via his mother's milk.

Each morning millions of Americans from construction to office workers line up for their ritual coffee breaks. But

stealth poisons lurk in those Styrofoam cups and once inside the body there is no mechanism for metabolizing or getting rid of all the carcinogenic **styrene** (U.S.D.H.H.S. 1992, Jakoby, Claassen, Sullivan).

Dioxins, another man-made chemical family, are also inescapable in our foods. Dioxins are created in part through the manufacture of plastics, pesticides, and other chemicals (U.S.D.H.H.S. 1998). They are spewed from industrial smokestacks, taken up into clouds, and rain out into the soils where they are taken up by plants that we use for food for animals and humans. It is not enough that they are one of the most potent causes of cancer known to man. For most of what we ingest, once it is inside the body there is no way out (except one that I'll explain later in this book). When we finally accumulate sufficient chemicals, we get cancer, or some other "incurable" illness. Incurable? No. As you will learn, incurable only means you haven't been shown how to get rid of the basic cause.

Studies alarmingly show that nursing infants can consume (through bioconcentration in their mother's breast milk) as much as 18 times more carcinogenic dioxin (Agent Orange) in one year than the maximum "safe" lifetime dose as recommended by the government's Center for Disease Control (U.S.D.H.H.S. 1998). No wonder EPA studies of human fat biopsies show styrene residues are in 100% of people (U.S. EPA 1984, 1986). And no wonder childhood cancers are at an all-time high as the number one cause of death by disease in kids ages 1-15. Clearly, as you'll see later, a mother-to-be owes it to herself as well as to her unborn to detoxify and clear these poisons out of her body before becoming pregnant.



Our foods wrapped in plastic look innocent enough, but those plastics permeate food and get stuck in the machinery of our bodies.

The top drugs prescribed in the United States (in 1999, as an example) tell more of the story. Premarin (a female estrogen replacement) and Synthroid (a thyroid replacement) are both hormones. Scientists have proven that the plasticizers or phthalates that outgas from the plastic wrap and plastic trays that nearly all meats, fruits and vegetables are encased in, migrate into the food (U.S.D.H.H.S. 1992, 1993). As well, nearly every liquid that we imbibe and most foods we ingest come in plastic, giving us a steady diet of phthalates. Since the body chemistry was not designed to deal with this daily onslaught of man-made chemicals, and they have no role in our chemistry anyway, they are not fully metabolized and slowly stockpile or bioaccumulate over a lifetime. They generally do not reach a high enough level to cause symptoms until we are middle age or more older.

Unfortunately the chemistry of phthalates resembles that of many hormones. As hormone mimics, they are potent **environmental endocrine disruptors** (EED) (Colon, Colburn, Soto, Crisp, White). EEDs act like a monkey wrench in the normal chemistry of hormones. They can, for example, damage hormone receptors (the place on the cell surface where hormones attach to turn on our good chemistry). By blocking and botching up the action of hormones and other cell regulators, they can cause diseases like infertility, fatigue, depression, mood swings, memory loss, endometriosis and loss of libido. But since the actual cell receptors for hormones have been damaged, taking hormones is often ineffective and does not produce the desired results. As well, EEDs have increased our hormone-related cancers, like breast, testicles, and prostate (which are at an all-time high and continually rising) (Harris, Jobling, Roy, Bertozzi, Davis).



Since PCBs, dioxins, and plasticizers are found throughout our foods, nursing infants begin to tank up on enough of these to cause cancers or thyroid disease 5-45 years later.

Yet we are still so gullible that we think our hormone-producing endocrine glands just sort of wear out at any old time for no reason. So we take hormones to replace the "tired" gland. Have we forgotten that everything has a cause? I think so. Consider the fact that newspapers reported former President Bush, his wife Barbara plus the dog, Millie, three genetically unrelated organisms (one even from a different species), all had thyroid disease. But no doctors caring for them appeared to make **the environmental connection**.

Hormone Havoc Created By Plastics and Pesticides

Plastics and one of their primary components, phthalates, are among the most abundant man-made chemicals. The average human intake of phthalates, as from everyday plastic wrap on foods, is 210 mcg per day (Doull). Can you imagine that? We ingest so much carcinogenic and endocrine-disrupting plastics that we have on record an average human daily intake?

And this level is rising, since the majority of all our foods and drinks are encased in plastics. But who would have ever guessed that these plastics would leach significant amounts of phthalates directly into our foods (Huber, Cohen, Gilbert, Castle, Krishner, U.S.D.H.H.S. 2000, Broton)? And once in the food, who would have guessed the body would be unable to detoxify them? Or who would have guessed they would get stuck and stockpile, silently accumulating over a lifetime, only to continually leach out of the body storage sites over decades to produce chronic diseases of every conceivable type (Perera, Huber, Michinovicz, Jones, CDC)?

Certainly we are the first generation of man to be exposed to so many diverse chemicals, especially synthetic hormone mimics or EEDs (environmental endocrine disruptors). The list of chemicals in our foods is ever expanding to include not only plastics and phthalates, but their carcinogenic and hormone-disrupting pesticide-like cousins: dioxins, HCB, PCBs, DDT, lindane and atrazine. Besides plastics and pesticides, the list of EEDs goes on with non-biodegradable detergents, polystyrene, trichloroethylene and more words that would only be meaningless to the average person. The point is these are widely distributed and totally unavoidable in our everyday environments (in our air, food and water) and wreak untold havoc with our hormonal systems, accelerate aging and trigger cancer.

As the chemical and food industry vehemently asserts, small amounts are harmless. This is true. But they neglect to mention that since we do not totally detoxify the everyday "harmless" amounts of chemicals that we inhale and ingest, they silently stockpile (bioaccumulate) in our tissues. This is not harmless. But studies are not routinely done on even the effects of one chemical decades later, much less the synergistic (exponentially damaging) effect of multiple chemicals.

Decades later when they do cause disease, we still don't get the message. We chalk it up to old age. We see nothing suspicious about getting cancers, auto-immune diseases like lupus, arteriosclerosis, high blood pressure, arrhythmia, heart attack, rheumatoid arthritis, thyroiditis, high cholesterol, diabetes, colitis, allergies, Parkinson's disease, benign prostatic hypertrophy, multiple sclerosis, osteoporosis, heart failure, worn out joints requiring replacements, and other degenerative diseases in midlife.

Phthalates and other environmental chemicals are not only stealth triggers for cancer, but because they resemble our hormone cell receptors, they gum up the works in an endless number of ways that are just beginning to be appreciated. It is no coincidence that the two hormonally linked cancers, breast and prostate, are on a rapid rise and that thyroid medication is the third most commonly prescribed medication in the United States. How else could all of this hormone havoc suddenly have happened in this era? And don't forget that we have not even begun to look at the hundreds of other chemicals that wreak havoc in our daily environments that have a synergistic (additive) ability to create even more silent body damage.

Menacing Metals

Are plasticizers and pesticides the only toxins we get from our foods? Not by a long shot. Heavy metals are just one more example of deadly hidden toxins in our foods. Mercury toxicity from bottom dwelling shellfish and fish (clams, crabs, lobster, mussels, oysters, flounder) and smaller fish that feed around the mouths of rivers, as well as large fish like swordfish and tuna that feed on the smaller fish, stockpile heavy metals from upstream industry (Crinnion, S.S.F.D.A., Tollefson).

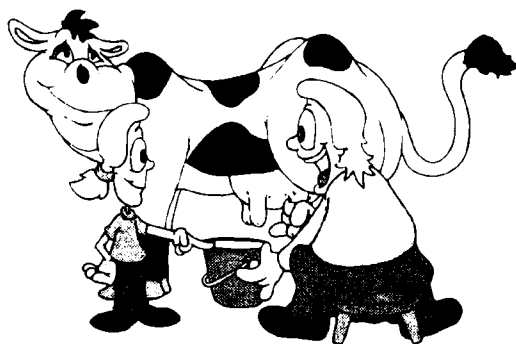
Cadmium, aluminum, mercury, antimony, lead, and arsenic are some of the heavy metals added to the food chain from upstream industrial discharges, pesticide runoff, incinerator emissions, manufacturing smokestacks, as well as from aviation, auto and commercial vehicle exhaust (see individual U.S.D.H.H.S. books). Aluminum contamination, for example, contributing to the rising epidemic of Alzheimer's disease, is

in baking powders (except for Rumford®). We also obtain aluminum (U.S.D.H.H.S. 1999) from the giant vats that processed factory foods are made in, as well as aluminum-lined juice boxes, cans, and other packaging, plus kitchen and commercial coffeemakers, hot water heaters, thermoses and aluminum cooking utensils. It's even an anti-caking agent added to salt and sugar (so that "When it rains it pours").

As though we did not have enough ways to contaminate our foods, there have been accidental spills that have led to serious silent poisonings. One example was the mistaken addition of the PCB-containing flame retardant, Fire Master, into animal feed three decades ago. The result was widespread contamination in the state where it began, Michigan, which insidiously spread to other states via predominantly dairy and meats. Commercial shipping, industry, incinerators, and more have contributed to the contamination. This area is but a small example of how silent thyroid and brain damage emerges (Persky, Anderson).

Studies 5, 10 and more years later showed that once in the human body, these toxins did not leave, mainly because the body has no way of completely metabolizing them. These potent carcinogens have remained in the tissues of millions of innocent Americans because of one firm's mistake that you have probably never even heard of. No wonder, as you will see in the next chapter, EPA biopsies of human fat show that 100% of humans have blatantly carcinogenic PCBs, styrene, and dioxins stockpiled in their fat, just waiting to cause cancer and other diseases. No wonder we have an unsurpassed all-time high rate of cancer and many other chronic diseases. But more on that later.

Whole books (Rea, Sullivan, Klaassen) beautifully detail how pesticides, insecticides, herbicides, molluscicides, fungicides, artificial fertilizers, growth regulators, hormones, ripening regulators as well as food additives, dyes, colorings, flavorings, stabilizers, preservatives, and more contaminate the foods that we eat. Chemicals used in growing, harvesting, storage, shipment, processing, packaging, preparation and cooking may be invisible, but are nevertheless present and end up stuck in our bodies.



One accident decades ago, the addition of a fire retardant in cattle feed, resulted in millions of Americans having higher levels of cancer-causing PCBs in their bodies than "normal" from ingestion of milk, cheese, meat and other foods. As you will learn, there's no proven way to get this out of the body except for one.

In Our Air and In Our Breath

There is not a home, office, institution, or manufacturing site where plastics do not abound. They are used in construction materials, building products and furnishings, plastic baby bottles, baby rattles and teething toys, plastic crib bumpers, car seats, and mattresses, kitchen appliances and even our shoes, sneakers, IV tubing, computer housing, automobile dashboards and undercoatings, electrical wire coverings and cables, carpet backing, cosmetics, notebook covers, clothes, dishes, tablecloths, shower curtains, toilet seats, gadgets,

games, and much more. In fact, scientists were alarmed at the levels a baby acquires just in sucking on his teething ring. And when he grows up, plastics lurk in his dental fillings, bridges and plates. As well, medications like Tagamet® (cimetidine) and digitalis have estrogen-like chemistry, as well as the ability to damage genes and cell function, regardless of sex (Roy).

Not only do these plasticizers or phthalates get into our foods, but they are in our everyday air. This assures them another easy route to every one of our internal organs. Plastics in the home and office environment continually outgas or leach into the air we breathe. Think of the smell of new vinyl in furnishings, a mattress, your computer, your blender, notebooks, new shoes, boots, attaché case, purse, or automobiles. Any chemical that you can smell in the air makes its way into your bloodstream, as those molecules diffuse from your lungs and even through the skin into the bloodstream, eventually disseminating into all organs (Sullivan).

But plastics are just one example of thousands of everyday chemicals we stockpile. In addition, our air is contaminated from auto exhaust. For example, diesel exhaust has been proven to aggravate asthma and increase allergies, trigger heart attacks or depression, as well as lower the immune system's resistance toward getting infections. Auto exhaust contains heavy metals, pesticides, volatile organic hydrocarbons like formaldehyde, benzene, toluene, and many other foreign chemicals that are all lumped into the term "xenobiotics" (foreign chemicals). Then throw in the exhaust from industry and municipal incinerators and you can

understand why *each day we are literally bathed in a sea of chemicals.*

Outdoor air clearly contains some of the nastiest concoctions of pollutants. Just think of what symptoms you would feel if you stuck your face near a truck or bus exhaust pipe for any length of time. But smaller amounts of this type of pollution, depending upon your time spent traveling, and even how close you live to major highways, have a bearing on the amount that your body takes in each day. How close you live to industry, what they manufacture, what types of toxins are in the air, the direction of the prevailing wind, and where the isotherms settle out at night all play a role.



Industrial, incinerator and transportation exhausts are the unavoidable dominants of outside air pollutants, while plastics and volatile organic hydrocarbons, like formaldehyde and toluene, are among the hundreds of indoor air pollutants.

For no place is safe. As an example, some folks live on a pristine wooded hillside in suburbia, miles from the grime of cities and industries. In the evening, columns of pollutant-laden hot air rise from the sun-heated city pavements, roads

and buildings. With them are carried transportation and industry exhausts. These are carried for miles on evening breezes; by near morning the cooling of the earth's surface allows the **isotherm** (a mass of air that is the same temperature) to settle out over unsuspecting sleepy suburbia. In fact some suburbanites are getting worse air quality than if they lived right next door to the factories.

Home, Toxic, Home

Let's take a peek at what we would consider one of the safest environments, our homes. In the 1970s we had a flood of people who innocently insulated their houses and offices with urea foam formaldehyde insulation (UFFI) or moved into a new mobile or prefab home (Gupta, Dally, Broder, Konopinski, Wanner, Thrasher). Suddenly we had people pitching tents on their suburban lawns for survival. As with any new plague, it was vehemently denied for years by those with a vested interest, but the battle was slowly won as thousands of scientific papers, lawsuits and dozens of books can attest. The symptoms ranged from brain fog, headaches and depression to arthritis, asthma, or nausea. Some were totally incapacitated. The price paid by the innocent pioneer victims can never be remunerated (Samet, Sullivan).

At that point in time, I was not only one of the original victims, but also one of very few physicians throughout the world who were treating these people. We saw a wide range of symptoms emerge within days or weeks of installing or being exposed to formaldehyde insulation. For some, treatment was as simple as avoiding exposure, removing it or moving. Or, as you will learn later, we could beef up their ability to detoxify the formaldehyde, while we also showed

them how to accelerate its off-gassing. Others were more damaged and they required years of treatment, while some needed special environmental units, the most effective of which was (and still is) Dr. William J. Rea's in Dallas. And some, because of financial limitations or our rudimentary state of knowledge in that decade, never healed.

The average carpet outgases over a dozen chemicals, all of which are capable of creating disease. Beebe and others have written books about the devastating health effects from new carpeting. Anderson Labs demonstrated on TV just how toxic new carpeting can be. They placed a little patch of carpet (that patients had been complaining of) in the bottom of a glass jar with some mice. In the morning the mice were dead. 4-PC was one of the chemical culprits, which also included the other common carpet chemicals: benzene, toluene, xylene, formaldehyde, butadiene, styrene, methacrylates, and more (Anderson 1997).

Your most important chemical environment is the household environment, first because that's the one that you spend the majority of time in, and second because it's the one you have the most control over. Most people don't give a thought to the paints, solvents, insecticides, greases, oils, lawn mower, gas cans, heated car engine, furnace, gas dryer, gas water heater, washing machine and other sources of toxicity lurking in their basements and garages.

Certainly many a faulty furnace has spawned articles in women's magazines. Reporters have told how one member of the family had body aches and migraines, another had mood swings and depression, another had nausea and stomach problems, and another had recurrent bronchitis and

infections. Even the family dog was sick with vomiting and rashes. It took months before anyone realized the malfunctioning furnace was the universal culprit. The outgassing hydrocarbons created mysterious diverse illnesses throughout the unsuspecting family.



Just the innocent common carpet outgasses benzene, a known cause of leukemia, not to mention other carcinogens like toluene, xylene, formaldehyde, butadiene, styrene, methacrylates, and much more.

Construction materials like paints and wallboard, plasticizers in wallpaper, phenols in plywood, formaldehyde in pressed wood kitchen cabinets, bookcases and dresser drawers, and wood preservatives are just a few of the common home construction materials, not to mention foam formaldehyde in sofas, shares, mattresses, and insulation or boron insulation. Back drafts from creosote-lined chimneys and flues can trigger symptoms.

Further inside sources of pollution include appliances and computers with their plastic housings and plastic-coated

heated wires, all outgassing above the background level of furnishings and carpets with their hydrocarbon-based glues, adhesives, formaldehyde stain-resistant finishes and dyes. In addition to formaldehyde foam, mattresses and pillows usually contain pesticides and fire retardants. It's a wonder we get any sleep with our noses nestled in those disease-producing chemicals that we force our bodies to detoxify all night long. It is the reason why many are restless throughout the night, while others awaken feeling like they have never slept.

Wool blankets can emit trichloroethylene dry cleaning fluid and moth-detering pesticides. Air fresheners and pesticides in the home are definitely avoidable toxins in your own home, thanks to the many books on organic and alternative pesticide control measures. Sometimes a simple air cleaner works wonders, but there is much more to learn about getting rid of mold (*The E.I. Syndrome*). Please don't use air fresheners! Besides causing many allergic symptoms, **molds** contain powerful hormone mimics as well as some of the world's most lethal cancer-causing mycotoxins. Carbon monoxide and natural gas from malfunctioning furnaces, and molds from humidifiers and air-conditioners, unvented bathrooms and undiagnosed roof leaks have slowly poisoned entire families, causing the most mysterious and diverse symptoms.

And we haven't even begun to touch the chemicals that lurk in our air. Styrene (from plastics), benzene (from plastics and rubber), toluene and xylene, trichloroethylene, dichloromethane, trimethylbenzene, hexanes, phenols, pentanes and much more outgas from our everyday furnishings, construction materials, and appliances. And chloroform outgasses from the aerosolized water from the shower spray.

Due to the body's large surface area, EPA studies show an enormous amount can be absorbed through the skin. You don't have to work in a factory that produces an exotic chemical. You are surrounded by them in your everyday home environment.



One of the most common causes of headaches is hidden mold allergy. Sometimes something as simple as an air purifier in the bedroom solves the problem.

And then there are the unsuspected deadly chemicals that make their ways into our homes that we would never dream of. An on-duty trooper was called out to an accident of an overturned truck one night. After his shift was over, he returned to his home exhausted, for a good night's sleep. Within 24 hours his life turned to tragedy, because he had unknowingly tracked the spilled chemical from the roadside truck onto his home carpet where his baby crawled the next morning. The baby died, while the trooper and his wife were hospitalized.

Two decades ago patients in my testing room were having a little contest to see who had come from the furthest away. One lady thought for sure she had come the farthest as she proudly announced she was from Alaska. "Me, too ! I'm from Moose Pass. Where are you from?", enthusiastically came from across the testing room. They brought newspaper reports of how a Borden's railroad tank car passing through their town had malfunctioned and accidentally spewed 93,000 pounds of formaldehyde into the air, resulting in evacuation of the entire town. Days later as people filtered back into their homes, a core of folks badly damaged by the formaldehyde fumes were never able to tolerate their homes, trucks, autos, and even their clothes and furnishings again. These were the folks that we were treating (and have recovered!).

In Your Water

We should have known we were in trouble when a decade ago the cover article of *USA Today* showed that the average city water contains over 500 different chemicals. Considering that it takes decades for this type of information to trickle down to the lay person, this should have been a big clue that we had been missing the boat in protecting ourselves. But now anyone who doubts the toxicity of water needs to only ask themselves why local spring water costs more per gallon than gasoline hauled from thousands of miles away via expensive wells and refining.

Real uncontaminated, clean water does not contain 500 different chemicals, nor does it have an objectionable odor or taste. And in contrast to the average city water, real water does not require the addition of multiple chemicals to make it

safer, more palatable, less acidic, more healthful or change any of its other characteristics. Our water is poisoned chiefly by industrial pollution via smokestacks and waste water, plus artificial fertilizer (often recycled toxic sewage sludge loaded with heavy metals that bioaccumulate in the body) and pesticide runoff from agriculture. But not being content with that, man has figured out many more ways to increase the toxicity of drinking water.

Fluoride is a good example of a toxin that is deliberately added to water. Fluoride is a halogen that is a potent enzyme inhibitor that is even used as a preservative and anticoagulant for biological specimens. It is known to cause excessive calcification not only in arteries but joints and ligaments, and contributes to many forms of cancer and osteoporosis.

For 11 years between 1986 and 1997 a national survey of 39,000 United States schoolchildren revealed no statistically significant differences in tooth decay between children drinking fluoridated versus non-fluoridated water. In addition it was found that instead of building strong healthy teeth, fluoride damaged brain enzymes and lowered IQs (Zhao, Foulkes). And we certainly have an epidemic of learning disability to back that up.

Fluoride has also been linked to behavioral disorders, birth defects, flu-like symptoms and arthritis. Fluoride acts much like a heavy metal (even though it's a halogen) in damaging enzymes. Also once in the cell membrane, it can cause malfunction as well as damage hormone receptors and other regulatory sites. If that were not enough, fluoride has also caused an increase in bone cancers as well as hip fractures from skeletal fluorosis (accumulation of fluoride in the bone).

By displacing minerals that belong in the bone, fluoride leads to a weakening of bone and an eventual increase in fractures.



Even "USA Today" reported a decade ago that average water contains over 500 chemicals. They are absorbed right through the skin. Fluoride, one that is intentionally added, has caused bone cancers, lower I.Q.s. in children, osteoporosis, and much more. Shower and drinking water filters are good investments.

Death rates are also higher in fluoridated communities versus those living on well water (Yiamouyiannis, Hoover, Cohn). In one study by the United States National Cancer Institute, there was a 70% increase in osteosarcoma (bone cancer) among young men in fluoridated areas of Iowa and Seattle versus a 4% lower incidence among young men in non-fluoridated areas in the same states. In regions of New Jersey, the incidence of osteosarcoma was 3-7 times higher in fluoridated areas. Remember osteosarcoma is a rare type of bone cancer, so when you see a startling increase, you know it

has to be something pretty pervasive in the environment that many are exposed to.

Studies also show that fluoride can damage the heart and other organs like the brain, kidneys and hormones. It interferes with the metabolism of testosterone (contributing to the Viagra epidemic, ushered in by physicians writing over 100,000 prescriptions a week). Many researchers are particularly concerned about fluoride in infant formulas, baby foods, juices, tooth treatments, and prescriptions from their pediatricians, in addition to being deliberately added to water. It turns out that children with immature detoxification systems are getting a higher dose than most adults, and they are less able to handle it. And if you want to boost your fluoride intake fast, begin Prozac, the prescription anti-depressant that contains three fluoride molecules per molecule of fluoxetine. See the reference chapter (VI) for organizations active in opposing fluoridation in municipal water supplies.

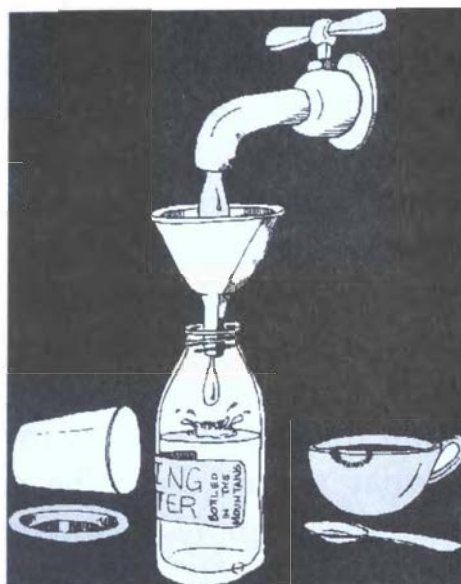
Chlorine, used for decades to kill the bugs in drinking water and as a home cleanser, turns out to be a free radical initiator that elevates cholesterol and accelerates aging. When chlorine drills holes in arterial walls (called lipid peroxidation), the artery has no choice but to call for help from the body's Band-Aid to plug these holes before we bleed to death. What is this emergency Band-Aid? Cholesterol.

Statistical analyses and comprehensive articles have documented how the chlorine in our drinking water promotes not only arteriosclerosis (hardening of the arteries), but various types of cancers of the rectum and bladder. Bathing the interior lining of our arteries in a free radical initiator such

as chlorine from drinking water can only hasten hardening of the arteries, already the number one cause of death in the United States. In the *American Journal of Public Health*, researchers have shown how we also absorb a damaging amount of everyday chemicals like chlorine and chloroform through our skin while showering and bathing in city water. Clearly we should all have shower and drinking faucet filters to obtain the cleanest water possible. We will explore this later and Chapter VI provides the sources.

Since *dilution is the solution to pollution*, we need a lot of quality water each day. Clearly, water is one of our most important nutrients. So it is ironic that one of our most important detoxification tools is progressively more polluted. Lots of times we find elevated copper levels in folks and the primary source is copper piping with acidic chlorinated water running through it that pulls the copper from the pipes into the water. One great clue that you have too much copper in your water is if there are any blue-green stains in the tub, toilet or sink.

When I recently tested the faucet water in my home, through Dr. Wm. Rea's drinking water analysis (also available to you, see AEHF in the resources), it was 0.65 for copper and the reverse osmosis machine dropped it to 0.008. But my **Alkaline Water Machine** dropped it to 0.007. As well, the measurable chloroform in the tap water was 0.008 and the reverse osmosis water purification produced the same, but through the Alkaline Water Machine it was 0.005. Correspondingly, the trihalomethanes were 0.023 in the faucet water, but half of that or 0.012 in the reverse osmosis water. But it was reduced nearly 80% to 0.005 in the Alkaline Water Machine (High Tech Health, see Resources).



There are oodles of ways to filter your water. Any water in plastic bottles is out, and distillation, the most thorough, leaves no minerals. Carbon screw-on filters are not very potent, so reverse osmosis seems the best compromise. But they all produce acidic water. All things considered, the best is the Alkaline Water Machine.

Since the pH of reverse osmosis water was 6.6 and for the **Alkaline Machine** water was 9.6 (on the maximum setting that I had chosen), many of us have chosen to drink alkaline water. The **Alkaline Water Machine** is easy to install on the countertop, is a cinch to operate and has an adjustable pH setting. Many studies improving the health of diabetics, arthritics, some cancers and other diseases have been done. Why are so many diverse conditions improved? Because alkaline water scavenges free radicals (ROS that you will learn more about) that are the basic cause of all disease (Shirahata).

Clearly we are already too acidic from processed food diets, too much meat and the acidity caused by disease. We don't need to impose further acidity on our bodies through acid

drinking water. For this uses up or depletes our natural buffers, like calcium, that could be put to better use, as in preventing osteoporosis or improving heart function. Certainly we are better off drinking alkaline rather than acidic water. If you get pH paper (resources) and measure the pH of your tap water and bottled waters, you'll be amazed at how acidic they are. But real water, having a pH of around 7, is neutral.

We can always rely on the mistakes of man to give us great history lessons on what not to do. The case of Woburn, Massachusetts is a glaring example of how toxic our modern water system has become. One unfortunate mother of a child with leukemia got suspicious that there were so many other children with leukemia in the oncologist's office. Her suspicion was confirmed when she found that there was indeed a much higher rate of leukemia in children in her small town than there statistically should have been.

Through great effort, one mother found the cause. **Trichloroethylene** (TCE) from a decades-old plowed under ammunition factory had contaminated the underground water supply. Young children with immature immune systems were most vulnerable to this known and very prevalent carcinogen. In fact, it is in most water supplies in the United States with some in as great amounts as it was in Woburn.

Contamination from old industry, old forgotten rusting underground storage tanks, and leaking municipal waste sites all compound the toxicity from agricultural pesticides and synthetic fertilizers (with carcinogenic nitrites and heavy metals). In addition, mountains of other chemicals are

released into the water supply and ground from acid rain via the manufacturing industry, vehicle exhausts, coal burning power plants, and much more. But the source of the water itself does not have to be the problem. Copper, lead, PVC (polyvinyl conduits), acrylates, vinylidene and other plastic components leach out from the conduits or pipes for water.



Who would guess that TCE in the water supply of a whole town (from an old bulldozed factory site decades prior) was responsible for an epidemic of leukemia in children? Their children were weaned on it and grew up on it. Unfortunately, many towns' water supplies also exceed the safe limit for TCE.

Buy a shower filter (American Environmental Health Foundation, see Resources) and then decide what type of water filter best fits your needs and budget. For starters, a carbon filter that easily connects to the faucet (AEHF, N.E.E.D.S., Natural Lifestyle) is far better than none. Later you may want to invest in an Alkaline Water Machine that filters as well as alkalizes (High Tech Health). It provides the only water I know of that is alkaline. The rest are all

highly acidic, thereby overburdening your body. For disease already makes us acidic.

In Your Body

What do teeth have to do with body pollution? **Mercury** in our dental fillings has caused Parkinson's disease, while cadmium and arsenic from porcelain tooth restorations have caused osteoporosis. And currently physicians are concerned that a tally of the mercury preservative (thiomerasol) in most infant immunizations leaves the infant at three months with a total mercury dose exceeding the "permissible" limit for an entire year.

Methylacrylates from the dental bonding glues or adhesives (as you'll see in the next chapters) have caused sudden heart attacks, and the phenols used to sterilize root canals have caused serious migraines. **Silicone** from breast implants have caused auto-immune disorders like lupus, as well as chronic fatigue syndrome and fibromyalgia. **Titanium** from hip replacements or absorbed from cosmetics have caused cardiac arrhythmia. **Heavy metals** in hair dyes have damaged kidneys leading to renal dialysis or death by cancer, while **coal tars** in prescription and over-the-counter psoriasis creams are related to the very chemicals that scientists use one dose of to cause cancers in experimental mice.

Pesticides:

The Most Pervasive and Potent Polluting Poisons

After over 30 years in medicine, I can safely say that I believe the number one culprit that has damaged the largest number of people has to be **pesticides**. Indoors and outdoors they are

inescapable: used on lawns, commercial crops, for roadside weed control, and even via aerial spraying for such lunacy as West Nile virus. In foods they are inescapable, as it is difficult to find a food that does not have pesticide residues, even organic ones. Apples are sprayed approximately 14 times a season, animals are dipped or sprayed and their grain and other feed are grown with pesticides and herbicides. Their water supply contains runoff from pesticated fields. And once produce is ready for market, transportation usually requires fungicides to keep it from rotting in transit. To prevent it from becoming infested, shipments are often blanketed with vermicides to kill the rats or insecticides to keep the flies and other bugs off.

Indoors we can barely escape them as they are used not as needed, but pesticide schedules are decided on a contract basis in institutions, schools, businesses, churches, restaurants, and factories. They are on our textiles and furnishings, clothes and in our cosmetics, toiletries, papers, office supplies, and plastics.

Invariably, among the most damaged people that I have had the privilege of caring for over the last three decades, have been those with unsuspected pesticide exposures in their younger years. Many grew up as children of parents enlisted in the armed services who lived in barracks and other housing which were routinely pesticated with chlordane, an insecticide that has a thirty-year half-life. With a 30-year half-life, it basically never goes away, since there is invariably continual low-level exposure from numerous sources, re-boosting you to more toxic levels. Chlordane was only outlawed a few years ago. Other pesticide victims were brought up on a farm, but the vast majority had another source.



The higher up on the food chain you go, the more ubiquitous environmental toxins, like pesticides, are concentrated in the organism. Meats, fish and fowl contain many times more pollutants than a plant-based diet.

They recall vividly as the spray truck came down their streets when they were children. They would all joyously run outside to jump and play in the spray from the truck. Or they would chase the spray truck on their bicycles, laughing with innocence while vigorously inhaling the fumes. This DDT must have an incubation of 20 to 40 years, because that's the period of time that it took for them to develop devastating and confounding illnesses that baffled all physicians.

Many of them had sought 20 plus physicians with not even as much as a diagnosis. These folks had "dead-end" neurologic disease labels like MS (multiple sclerosis), ALS, Parkinson's disease, mysterious neuropathies, or "incurable" chronic fatigue, fibromyalgia, depression, or cancer. Other innocent pesticide victims merely lived in the South and had exposures to monthly roach or termite pesticides, lived in homes or

apartments that were routinely sprayed or went to bed nestling their heads in the flea collars of the family pets. Sometimes they merely worked in buildings that were routinely sprayed in the evening or on weekends, unbeknown to the workers.

Pesticides are so potent a trigger for a multitude of diseases that when researchers need 500 rats with devastating Parkinson's disease for experiments, how do you think they accomplish that? They merely give rats *one* dose of a common organic pesticide to cause Parkinson's disease in them! Scientists use the same recipe to create cancer in rats for research. They give them one dose of a pesticide or related chemical.

In addition to the plastics that are such great environmental endocrine disruptors or hormone mimics, there's one more important class. The organochlorides pesticides are even more damaging to the endocrine or glandular system, as well as to the immune system and detoxification systems. Organochloride pesticides are a category of pesticides that include more than 15,000 chlorinated compounds (chemicals that contain one or more chlorine molecules).

Organochloride pesticides include the herbicide (weed killer) atrazine, one of the most commonly used pesticide for corn, and other grains, fruits and vegetables. Organochloride pesticides also include DDT, chlordane (the major pesticide used in army housing as well as for residential housing, and partially banned a few years ago), lindane (the main ingredient in children's prescription head lice remedy), dieldrin and many other pesticides, as well as industrial

chemical spin-offs like PCBs and dioxins (ubiquitous chemicals that are also extremely potent cancer triggers).



DDT was only partially banned by the U.S. decades ago because it was not only a blatant carcinogen, but persists or stockpiles in the environment as well as in our bodies. However, African nations have brought it back in full force as a weapon against malaria. Scientists have tracked DDT-containing clouds that eventually rain out over U.S. soils and waters.

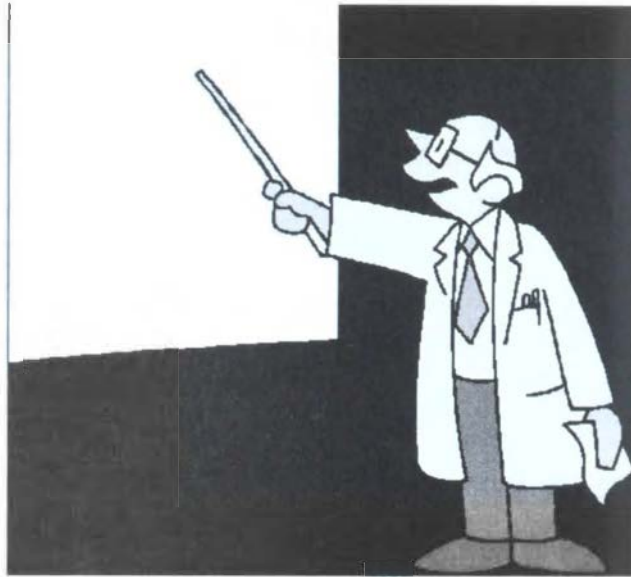
You might remind me that DDT was banned in the U.S. decades ago, because it was found to be a potent cause of cancer and found to stay or persist in the environment once it was released. But we still make it and sell it to other countries, many of them third world. The problem is that many of them supply our foods. And its use is becoming more pronounced. As the *Wall Street Journal* showed us in 2001, African nations, attempting to eradicate malaria, produce huge clouds of DDT that actually rain out over the United States. In essence, organochloride pesticides, even those most carcinogenic and banned decades ago, are

unavoidable in our environments and since they are not totally detoxified, are pervasive in the human body. Unfortunately, they are also among the most potent causes of cancer, other chronic diseases and organ malfunctions.

The body is unable to completely metabolize, detoxify and permanently get rid of many parts of these pesticides. Yet for the parts of these compounds that are successfully detoxified by the body, the biological half-lives of these substances are not days, not months, but years. This leads to a slow steady accumulation, with the unknown additive affects from the totality or combination of multiple compounds being dangerously synergistic (Hoyer, Chang). In other words, they do not have an additive dangerous effect, but an exponential potency. In terms of danger to you, $1 + 1$ does not equal 2, but more like 10. Volumes of toxicology books and scientific reports verify that these are not the simple, harmless, easily metabolized substances that those with a vested interest (manufacturers) would have us believe.

In fact, there are no absolute tests that can inexpensively identify all pesticides, phthalates, and other environmental chemicals or their metabolites once they are inside the human body. And no wonder chlorinated pesticides are so dangerous when simple chlorine compounds themselves contribute to a host of "untreatable" diseases such as chronic fatigue syndrome (Dunstan), and are implicated in increasing cancer rates, especially bladder and rectal. Organochloride pesticides have been found to be one of the many risk factors in getting breast cancer (Hoyer). That should not surprise anyone since researchers for decades have used as little as one dose of a pesticide to create experimental animals with various cancers, immune deficiencies, nerve damage, intestinal disease,

neurologic diseases like Parkinson's disease, and more. Clearly, pesticides are some of the most dangerously and silently potent chemicals that man has synthesized.



When it comes to the cumulative effect of environmental toxins in the body, they are synergistically exponential. $1 + 1$ does not equal 2, but more like 10.

And as far as laboratory tests go for pesticides, the obvious value for the "normal level" of pesticides in the body is zero. But because there are probably no "clean", pesticide-free animals, fish, or humans left on the face of the earth, zero is no longer the norm (Turusov, W.H.O.). Instead, laboratory values are reported as "population average", a relative comparison to what everybody else has. For as you'll see, EPA studies of everyday folks in their own homes show disease-provoking levels of common chemicals in their fat samples and breath analysis constantly.

Last of all, remember that pesticides are designed to kill living organisms. Sure we use small amounts to kill small critters

that normally have a very short life span. But remember, at the same time, we are stockpiling the very same lethal chemicals. Now even children have higher rates of pesticide-induced cancers (Reynolds, Meinert, Leiss, Pogoda, Davis, Zahm, Daniels). And we more than make up for the low dose by tanking up over a period of 20 to 50 years before symptoms emerge. Clearly we are a dangerously and pervasively polluted people.

Bring on the Doubters

We are continually bombarded by detractors from special interest groups (manufacturing, chemical industry, food industry, agri-business, transportation industry, lobbyist-influenced regulatory institutions) who have argued that the levels of ubiquitous environmental hormone mimics (like pesticides and plastics) are so low that they cannot do any appreciable damage. But researchers have found they actually can do more damage at low levels than at higher levels.

As Colburn has so beautifully documented in *Our Stolen Future*, the evidence in the animal kingdom from fish and reptiles to amphibians and mammals is incontrovertible. The damage of pesticides to the reproductive system, the immune system, the nervous system and, especially brain development, are more subtle than developing cancers. Cancers have been assumed to be the ultimate disease manifestation. But the damage produced by pesticides is much more pervasive, capable of producing devastating effects on multiple body systems at once.



Those scary media reports of hidden toxins in our environments are a spit in the ocean compared with what really occurs.

For starters, cancers generally come at older ages, whereas neurological and endocrine developmental problems can affect the entire life range of the individual and therefore have a much more powerful effect on the species and society. Just consider two seemingly non-lethal effects of these environmental hormone-mimics, attention deficit (Jacobson, Chanda, Perea 2002) and hyperactivity disease (over one in ten children has this today) or infertility (which has risen over 50% in the last two decades).

Or consider much more subtle symptoms which are counterproductive for society, such as the inability to handle stress, uncontrollable violence, increased mental disease, decreased intelligence, drug addiction, schizophrenia, gender confusion and the loss of normal parental instincts. Environmental hormone mimics, with plastics and pesticides

at the top of the list, although not the sole causes, have a huge impact on the developing child, as well as his parents. The financial and social burdens of this filters to all of society.

Since hormones are the primary communication mode for the entire body, they are especially important in the developing organism. These environmental hormone mimics (like pesticides and plastics, as examples) are worse than any computer virus. For they can scramble messages and jam signals in the body chemistry beyond our wildest nightmares. Unfortunately, since there is not much attention paid to the increased level of cancers in children in the last two decades (which has reached an all-time high), how could we expect the epidemic of learning disability, depression and other "softer" or more subtle developmental deficits to garner much notice? But the fetus and infant are uniquely susceptible (Perera 2002, Faustman), with scientists showing that by age 6, some kids have already accumulated one half of their total life-time amount of cancer-causing chemicals (Day)!

For example, many environmental hormone mimics damage the thyroid gland, which is so crucial to the developing brain and resulting adult intelligence (Porterfield). No wonder reports abound that the scholastic aptitude tests scores are getting lower with the decades. Each of us carries several hundred environmental chemicals in our bodies. And no wonder when well over 50%-95% of the food consumed in United States has detectable pesticide residues. And bear in mind that this is in spite of the fact that the affordable analytical methods can detect only one-third of more than 600 pesticides. Today the United States uses 30 times more synthetic pesticides than in 1945, while the total killing power in use has increased only tenfold. Due to trade secrets, it is

nearly impossible to get complete information about these chemicals, even for physicians treating poisoned people.



When Tufts Medical Center researchers in Boston found that hard polycarbonate leaches bisphenol-A (an EED that acts like fertilizer for cancer and destroys normal gland function) out of laboratory flasks, water bottles, baby bottles, and all plastic food containers, their research funds suddenly dried up.

In one study of 20 brands of canned foods in United States high levels of **bisphenol-A** were found, a common plasticizer used in the lining of food cans. When researcher Soto found it also leached out of polycarbonate "hard plastic" laboratory flasks, the same kind used for commercial bottled drinking water, the funding for further studies by these Tufts Medical Center researchers mysteriously dried up. Once this information becomes known by the man on the street, you can imagine the havoc it could play in the food industry with so many items packaged in plastic. But industry relies on people being too busy, too tired, too sick, and too disinterested in

taking responsibility for their health to ever take the time to learn these facts, much less do anything about them.

The only reason the researchers accidentally discovered the estrogenic potency of their plastic test tubes was because of unexplainable results. They knew that adding estrogen to breast cancer cells made them grow wildly out of control. But they couldn't figure out why the breast cancer cells in plastic culture tubes without the addition of estrogen were growing just as wildly, as though they had been given estrogen. It turned out that the phthalates leeching out of the plastic test tubes and petri dishes were such potent estrogen mimics that they turned on the growth of cancer cells. The "harmlessly small" amount of plasticizer leaching from the test tubes acted like fertilizer for the cancer cells. So much for the detractors who insist that minuscule amounts are meaningless.

Needless to say, anyone serious about fighting a cancer, especially a hormonally mediated cancer like a breast, uterine, ovarian, testicular, prostate, or thyroid had better consider the options that will be spelled out here in terms of ridding their body of its lifelong accumulations, that have already lead to their disease. As well, they need to be sure that they have eliminated any further exposures to plasticizers, since they silently act like fertilizer for cancer. To have cancer and drink from plastic water bottles is just plain adding fuel to the cancer fire.

I love it when those with vested interests insist that the level of environmental chemicals for the average person is inconsequential.



When you are trying to heal, tanking up on phthalates is counterproductive.

One of my favorite studies was done by analyzing the breath samples from 350 New Jersey residents. Wallace and his EPA colleagues found benzene in 89%, perchloroethylene in 93%, and trichloroethylene (the Woburn, MA chemical that caused the mini-epidemic of childhood leukemia) in 29% of the breath samples. Numerous other organic solvents were also detected, but let's take a quick look at these chemicals that were bathing the lungs, brain and blood stream of common citizens.

Benzene is a known cause of leukemia and can come from auto exhaust, gasoline, plastics, rubbers, carpets, cleansers and other rubber-like materials. Carpet and plastics are common sources in the home. **Perchloroethylene** and **trichloroethylene** are solvents, commonly used in the dry cleaning industry and outgas from furnishings, cars, plastics and more. Feldman found that common solvents caused

memory loss and mood swings, while others found they can cause cardiac arrhythmias, sudden cardiac death, kidney disease and many other problems which we will explore in the ensuing chapters.

The fact is this study exemplifies how every chemical in the air is in equilibrium with our lungs. The chemicals that are in our daily products outgas into the air and are in our bodies. All environmental chemicals have direct access to the blood stream and every organ of the body. And once there, we do not possess the mechanism to completely detoxify or get rid of them and they stockpile.

For those stubborn scientists who still doubt that chemicals are pervasive, just check out the voluminous studies on **toluene diisocyanate (TDI)** or the enormous amount of research on **latex**. Both of these chemicals, which are so prevalent in plastics, outgas and are measurable in nearly every home and office environment, and then proceed to mimic literally every disease man has ever known and some he doesn't even have a diagnostic label for. PCBs, dioxins, phthalates and other environmental chemicals are found in the most remote areas, far from their origins in industrialized nations. In the breast milk of Eskimo women, as far down as 100 feet in Arctic icebergs and in Antarctic oceans. No place on earth is exempt.

Furthermore, toxicology books line my shelves and those of many of my colleagues as well as libraries all over the world. They detail the ubiquitous nature of thousands of chemicals that are in our everyday environments. No longer can those with a vested interest deny that chemicals are everywhere. And now, as you are about to learn, they don't just stop at our

lungs, but they go right on through into the rest of the system, where they get stuck and locked into our chemistry. From there they create disease.



There are no longer any areas on the planet earth free from man's toxic fingerprint. You can find toxic chemical residues in every remote land and water mass, as scientific expeditions prove.

Clearly, poisons are everywhere, so what would be a logical, simple first step? Water and air filters for your home (AEHF, Natural Lifestyle, N.E.E.D.S., High Tech Health, Foust, see Resources).

Could there be any doubters left? As for the doubting Thomas's, just remind them that if environmental chemical pollution of the human body were not a reality, then why does a gallon of water cost more than a gallon of gasoline? And why do dentists have to gown, glove and mask in order to remove mercury from our mouths and then handsomely pay toxic waste haulers to take it away?

I devoured over 300 pounds of EPA toxicology books and then tried to distill the highlights into a few pages. I promised myself that I would make this a small, quick and easy book for everyone. Obviously I could easily make a 1000 page book just on this chapter alone, showing you how pervasive chemicals are in our everyday environments. Clearly we cannot escape them. If you still have any doubt that we are exposed to more chemicals than any generation of man ever on the face of the Earth, please consult many of the fine references that I have enumerated in the reference section. Environmental pollutants are inescapable.

References:

See the voluminous scientific references at the end of the book in Chapter VI.

Environmental Toxins Stockpile in the Body

In the first chapter you learned of just a very few examples of the thousands of environmental chemicals inescapably in our everyday environments.

For example, the common carpet emits over 200 volatile organic chemicals which include formaldehyde, benzene, toluene, acetaldehyde, chloroform, xylene, phenol, benzaldehyde, hexanes, chlorobenzenes, styrene, butadiene latex and much more. Or let's take a look at our drinking water. Volatile organic constituents identified in New Orleans drinking water include: acetaldehyde, acetone, benzene, bromodichloromethane, tert-butyl alcohol, carbon tetrachloride, chloroform, 1-chloropropene, dibromochloromethane, dichloroethane, dichloriodomethane, dichloromethane, dichloropropane, dichloropropene, diethyl ether, 3-methylbutane-1-al, tetrachloroethylene, trichloroethylene, toluene, xylene, and much more (Rea, Laseter).

All Humans Have Chemicals in Storage

For many of the minuscule amounts of chemicals that we daily ingest, absorb and inhale, there's no way out. Our bodies were not meant to metabolize chemicals that were invented yesterday. Sure, you have heard the detractors say that these are in such tiny amounts that the body hardly even notices them. They say that the body can easily detoxify and get rid of these tiny amounts of chemicals. But let's look at one of the most convincing studies done by the United States Environmental Protection Agency (EPA).

U.S. EPA biopsy studies of chemicals stored in the fat of human beings show that **100% of people studied had dioxins, PCBs, dichlorobenzene, and xylene.** Dioxins and PCBs are among the most potent causes of cancers known to man. No wonder Columbia University School of Public Health reports that **95% of cancer is caused by diet and environment.** These chemicals are not normal to the body, they are not meant to be metabolized by the body, and we do not have the metabolic machinery to completely detoxify them. Consequently they slowly accumulate or stockpile, taking decades to eventually produce disease.

Are dioxins and PCBs only found in exotic occupations? Not in the least. They outgas from carbonless copy paper, plastics, inks, paints and furnishings and construction glues, as well as being common contaminants in the food chain. Dichlorobenzene can be that noxious odor of the "air freshener" in public bathrooms, and xylene outgases from plastics, carpeting, furnishings, construction materials, industrial and traffic exhaust and much more. No wonder everyone has these in their bodies -- -- -- they are unavoidably everywhere.

Other EPA studies of hundreds of Americans show **100% of human fat samples contain styrene,** which likewise can cause any number of perplexing symptoms as well as cancer. As you learned in the preceding chapter, styrene is unavoidable since it out-gases from our computers and a multitude of **everyday plastics** including the very plastic bottles we get drinking water, fruit juices, sodas, ketchup, peanut butter, milk and even baby formula from. Sadly, American physicians are not trained to look for the unavoidably ubiquitous environmental causes of disease. Nor are they

trained in how to get them out of the body in order to reverse disease.

No wonder scientists have recently been alarmed by the high levels of phthalates detected in the human body (Jones). Phthalates or plasticizers act as fertilizer for breast, uterine, testicular, prostate and other cancers, change the function of the ovaries, testicles and prostates, and lower progesterone leading to PMS, infertility, polycystic ovaries, irregular menstrual bleeding, endometriosis (Rier, Raloff), and more (Jobling). Because they can interfere with the action of every hormone, and hormones are the communication system of the body, plasticizers affect every body function.



In EPA studies, surgical samples of the fat of over 400 average Americans showed every single person had stored carcinogens and destroyers of health. And they didn't have just one, but many. For example, every single person had stored dioxins, PCBs, dichlorobenzene, styrene, and xylene. Any one of these alone can cause autoimmune diseases, cancers and nearly any symptom imaginable.

The scary part is that most of these are carcinogenic just by themselves. The combined effect of multiple carcinogens is synergistic, meaning one plus one does not equal two, but more like ten. And why are the most potent man-made cancer-causing chemicals in the fat of all of us? Because these inescapable everyday chemicals permeate every aspect of our lives. Scientists have found that just from auto exhaust, incinerators, coal furnaces, generators, and industrial smokestacks that these chemicals are everywhere on the planet Earth. They find PCBs and dioxins, for example, in polar ice caps, Arctic oceans, all the landmasses, seas, gulfs and oceans of the world. In fact if they want to find "clean ice", they have to drill a core down to a level that was formed before the 20th-century.

And if a crackerjack detective wanted to know where you had been all day and what you had done, all he has to do is draw a blood level of your chemicals. Trichloroethylene would tell him that you picked up the dry cleaning or wore a newly dry cleaned suit to work; benzene would tell him you probably stopped to gas the car; and toluene could betray that you might have stopped to pick up your kids at the gymnasium with a polyurethaned floor.

Many times I have found certain heavy metals or pesticides in people suffering from diseases for which they had been told there is no known cause or cure. It was only after repeated insistence and deeper delving into their history that they recalled exactly what I was looking for: they remembered bombing the house for fleas a few years prior to the onset of their symptoms, or recalled how as kids they raced on their bikes behind a spray truck that tooled down the street weekly. Suddenly they made the connection of what that spray truck

contained and they were able to fill in the missing parts of the puzzle we were looking for.



Just wearing a newly dry cleaned suit can give you measurable levels of trichloroethylene in your blood stream.

Detoxification Depletes Nutrients

Remember that every chemical that is in our air, food, and water, gets inside our bodies to reach an equilibrium with every organ. Everything is continually deteriorating or oxidizing (aging). Oxidized molecules of substances in the air ride piggyback on other molecules in air and easily reach our lungs. From here they are taken directly to the bloodstream and every organ including the brain. Remember the studies of the breath analyses of the New Jersey residents? Those folks inhaled chemicals from their carpets, and furnishings, appliances and computers into their lungs. And anything in the lungs then reached equilibrium with the bloodstream and

every organ of the body.

Studies by Dr. John Laseter of AccuChem Laboratories show that when we inhale a particular chemical, 10% could go to bone, 15% could go to the liver, 20% could go to the brain, etc. And for the next person the percentages could be totally different. The detoxification capability of each individual determines how much of each chemical is gotten rid of or depurated versus how much is stored and where.

For chemicals that do get detoxified, it is still no free ride. **The work of detoxifying uses up and depletes nutrients.** If we use up too many detox nutrients, this in turn makes us more vulnerable for the next environmental chemical that comes along. For example, if you depleted your detox nutrient glutathione while detoxifying the trichloroethylene from wearing a newly dry cleaned suit to work, then you might be the only person to get a headache from the new paint at work. Because you were low in glutathione, you were not able to detoxify the paint fumes as well as your co-workers. Or you might be the only one to get cancer in a few years after pesticing at home.

Detox Phases I & II

Since the integrity of each person's detoxification system is the major determinant of whether chemicals are detoxified or stored, let's look at some of the major ways the body detoxifies or gets rid of its everyday chemicals.

Basically detoxification is divided into two phases. In **phase I**, electrons are merely shifted around on the chemical to prepare a niche for phase II. In **phase II**, a heavy detoxifier

molecule is attached to the chemical site or niche on the chemical that has been prepared in phase I. This heavy detoxifier is usually a molecule that the body has made, like glutathione. Once it is attached to the chemical in its niche, this makes the chemical very heavy and also gives it a polarity or electrical charge. This heavy polar chemical now is easily dragged out either into the stool or urine so that the body can get rid of it forever. It's a pretty neat system, isn't it?

In phase I there are lots of enzymes that help to prepare the attachment site or niche on the chemical where the body's detoxication molecule can grab on. All of these enzymes require minerals to make them work. For example, often a chemical can first be worked on by alcohol dehydrogenase, a zinc-dependent enzyme. Next it may be further made ready via aldehyde oxidase, a molybdenum-dependent enzyme. Or it may be prepared by superoxide dismutase which requires zinc, copper, or manganese. Magnesium is always an important mineral in many of these pathways as well. Electron donors like vitamin C, lipoic acid, and many more antioxidants are also important, as you will learn. Logically, if you are deficient in some of these minerals you won't completely detoxify.

In phase II, the body has over half a dozen attachments that it can hook onto the chemical. A common one is called **glutathione**. This tripeptide is created in the body from three amino acids: glycine, glutamic acid, and cysteine. Glutathione can grab onto hundreds of types of environmental chemicals and drag them right out of the blood into the liver, then to the gallbladder and into the gut where they are eventually flushed down the toilet, where they belong. What a marvelous system for getting rid of the hundreds of nasty

environmental chemicals capable at any moment of causing cancerous changes in our genetics. As you can readily see, the only big problem is that **for every molecule of chemical that is detoxified, we use up, deplete, or lose forever a molecule of glutathione, plus a molecule of ATP or "energy".**



What we don't detoxify, we slowly, silently stockpile in our bodies forever. When the total load reaches a critical level, we have a symptom and eventually a disease label.

Now you can begin to appreciate how important eating a healthful diet is to restoring our detoxifiers. A body fed predominately junk food doesn't have a hope of making enough detoxifiers like glutathione, leaving the body extremely vulnerable for the next chemical exposure.

The Simple Detox Cocktail Solution

This is one reason why I strongly recommend everyone make the **detox cocktail** to have once or twice a day. It revs up both phases of detoxification. It can be as simple as

- a heaping teaspoon of Vitamin C Powder (pure ascorbic acid powder, Pain & Stress Center, Metabolic Maintenance, Klaire, or Tyler, see Resource section for details),
- 300-600 milligrams of Lipoic Acid (Metabolic Maintenance or Pain & Stress Center), and
- 400-800 mg of glutathione, in my favorite form as Recancostat (Tyler, N.E.E.D.S.). Have this with 1-2 big glasses of water.

Not only does the detox cocktail help detoxify and get rid of all sorts of environmental insults, but it also helps dump our stored heavy metals like mercury. But this only happens once you have caught up and don't have any other chemicals currently to detoxify.

Scientists have shown clearly that environmental chemicals in the bloodstream oxidize or burn holes in our genetic material called DNA. This genetic damage from environmental chemicals leads to changes that cause cancer and other diseases. But glutathione and ascorbic acid have been shown to protect against this (Lenton, Heuser, Gregus). As well, a dose of 4-6 grams of vitamin C a day can cause a tenfold elevation of the natural killer cells in 78% of patients (Heuser). Natural killer cells are our first line of defense needed to fight off infection as well as cancer cells. It's a win-win situation; there's no way you can lose by the daily use of the detox cocktail.

So for starters why not incorporate the detox cocktail into your daily regimen? If you get diarrhea from a teaspoon of Vitamin C powder, cut back to half or a quarter of a teaspoon. Anything is better than nothing. And when you do beneficial things for your body like the detox cocktail, it often has multiple other benefits. For example, scientists have found that after a high-fat meal, you are much more prone to having a sudden heart attack. The fat prepares the blood vessel lining, called endothelial cells, for multiple events that could lead to a heart attack. These include vessel spasm, inflammatory reaction, which leads to clots, and build-up of plaque that plugs the vessel lumen. But a high dose of vitamin C (500 mg or 1/4 teaspoon) and vitamin E (400-800 I.U. of a-tocopherol) counters or negates that, protecting you from disaster (Plotnick). Remember that the next time you come home from a heavy high fat meal, especially late at night. It could save your life.



The detox cocktail protects the body in a wide range of ways. It revs up detoxification of environmental chemicals, guards against a heart attack or blood clot, and cleanses the gut, protects our genes, and boosts cancer killing cells.

Now that you know about the detox cocktail, let's take one more quantum leap and teach you about ROS.

Winning the War Against ROS, the Cause of All Disease

Whenever I hear some politician, or worse, physician, talk about winning the war against cancer or some other disease, I'm amazed at their ignorance of the actual causes. They act as though the answer lies in merely discovering the right drug, gene therapy, vaccine, or surgery, and the disease will be conquered. Obviously, these people have been living in a cave because all disease is caused by **free radicals**, or more properly, *reactive oxygen species* (ROS).

ROS are hungry naked electrons that are produced by the chemistry or metabolism of the body. These electrons tenaciously attack any place they can steal another electron. They are only happy and non-destructive when they have a pair of electrons in their outer orbit. If they steal an electron from our genetic structure, DNA, we get a genetic mutation that can cause cancer or any disease. Or if they burn a hole in the cell membrane, the damage can produce a myriad of diseases or just accelerate aging and death of the cell.

When free radicals overwhelm the body's ability to quench or neutralize them, they foster damage that results in symptoms. Normally the body has a delicate balance between the forces of destruction, ROS and its arsenal of anti-oxidants. For **antioxidants act like sponges to sop up free radicals and to put out their fires of destruction.** Unquenched free radicals (reactive oxygen species or ROS) burn holes in our cell membranes, damage hormones, genes and other regulatory proteins that we rely on for total wellness.

But ROS are not all bad. Harnessed inside the white blood cell, they are used to burn up or oxidize nasty bugs in the blood stream like bacteria from food, Candida that sneaked through the leaky gut, or viruses that enter the blood through the lungs. But when the balance of ROS swings in favor of the free radicals (too many ROS versus too few anti-oxidants), we begin the downhill course of symptoms, accelerated aging, and disease.

What else can swing this imbalance out of our favor? Common producers of free radicals or reactive oxygen species are environmental chemicals. We inhale well over 500 every day in the average home environment, and this does not even count the office, factory or traffic and the rest of out of doors. Wallace's famous study for the U.S. government's EPA analyzed the exhaled breath of urban residents of New Jersey. In this breath analysis they found a scary array of chemicals that are notorious for forcing free radicals to create disease.

When ROS get high enough or persist long enough, the cumulative effect is that they begin the damage that results in common diseases. For example, they may damage genes sending the message for a cancer, or they damage an enzyme that is needed to properly metabolize cholesterol. And when our anti-oxidant levels are not high enough to counter this attack, this leaves our arsenal deficient and unable to detoxify the next chemical that comes along. This may provoke a symptom, like a headache or mood swing or muscle ache from the undetoxified chemical. You see how the domino effect of disease gets you on a roll with ROS. It starts a veritable avalanche of symptoms.

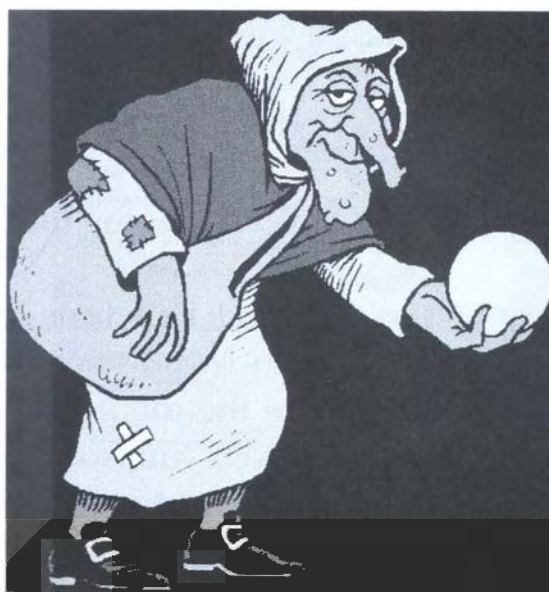


Antioxidants, like your detox cocktail ingredients, are like fireman who put out the destructive fires of free radicals (ROS or reactive oxygen species), the basic biochemical cause of all disease.

Once these naked, wildly destructive electrons are on the loose, they also eat holes in arteries that then attract nature's cholesterol Band-Aid. But instead of seeing the **cholesterol as a messenger of ROS overload**, or a call to arms to find the underlying problem and fix it, we kill the messenger (cholesterol) with drugs. Unfortunately, the cholesterol-lowering drugs, by inhibiting the enzyme HMG COA reductase, also turn off the body's ability to make coenzyme Q10. This deficiency in turn guarantees that the victim will go on to get high blood pressure, heart failure, cancer or other consequences. **All drugs initiate the domino effect or avalanche of further symptoms.**

ROS also attract special proteins called amyloid in the brain and we call that Alzheimer's disease, or they damage blood vessel linings and we get high blood pressure, or they damage

the function of genes to send the message to grow brain cancer, etc. But we don't have to wait powerless until ROS cause damage. We know we are in trouble when the cholesterol level warns us that ROS are on the war-path. We know we are in trouble when we have high blood pressure. For every symptom is a God-given opportunity to find and fix what is broken, versus sentencing the innocent patient to a lifetime of some expensive and damaging drug. For **with drugs, the sick get sicker quicker.** Drugs must be metabolized and detoxified, too. And in the process they use up detox nutrients that could have, should have, been used to protect us from the next chemical.



The Lipid Peroxide test (MetaMetrix) is like a crystal ball test, measuring the damage from ROS. If you have elevated lipid peroxides, you are on a fast track for developing new diseases and you are actively aging far too fast. The beauty is that you now have a tangible measure of the effectiveness of the measures you will learn about to reverse all this.

We know we had better shape up when detox enzymes like SOD (super oxide dismutase) or GSH-Px (glutathione peroxidase) levels rise, signaling that they are working overtime fighting free radicals. For elevated levels of these enzymes on blood tests are a signal that the body is paddling as fast as it can to get you out of trouble.

If you want to do one test that tells you if your body is working overtime fighting free radicals or ROS, get the **lipid peroxides**. As ROS burn holes in lipid cell membranes, peroxides (one of the free radicals) are formed. You can measure lipid peroxides via a simple blood test. Just have your doctor write it on a prescription, and you call the MetaMetrix 800 number for the kit that you take to any lab.

Lipid peroxides are a crystal ball test as far as I'm concerned, for it shows if you have too many ROS that are actively prematurely aging your body and hastening disease.

That is the beauty of these **crystal ball tests** (that you will learn more about later). Then once you know you are in the danger zone, it's time to change the diet, cleanse the gut, to detox years of accumulated poisons, improve environmental controls, and rev up anti-oxidant nutrient defenses (as I'll show you) to even the score. For recall that diet and environment make up 95% of the cause of cancer and other diseases.

Fight Disease With Food Power

To show how powerful food is, in one study they just had folks eat good wholesome foods and eliminate the junk. Their diet contained 2 tbs. of sesame butter, 2 slices whole wheat

toast, raisins (3 small boxes) and 2 tbs. almonds or pecans for snacks, ginger tea and (2 cups) green tea, 1 tbs. wheat germ oil, 6 servings of fruits and vegetables (1/2 cup each), beans, whole grains and optional 3 oz. meat, fish or poultry (for the week), nonfat dairy and eggs. Disallowed were white flour, junk processed foods, and whole milk products.



What you eat has more power over disease and aging than any medicine your doctor can prescribe.

The results? Dietary fiber, vitamin E, vitamin C, and carotene levels in the blood increased 160, 145, 160, 500%, respectively. Cholesterol dropped 13%, and the bad cholesterol, LDL dropped by 16%. As well, the crystal ball tests, rbc SOD dropped 69% and the GSH-Px dropped 35%. Incredible power! Red blood cell **superoxide dismutase** and **glutathione peroxidase** are the very enzymes the body uses to protect us from the damage of free radicals. Thus with a mere whole foods diet and getting off the junk, you can dramatically slow down aging and disease, as this study proves.

This translates into a small miracle, nothing that any medicine or gene therapy is capable of even coming close to duplicating. Wow! A 500% increase in beta carotene is what Harvard researchers (that I've cited in *Total Wellness* issues, 1999 to present) used to turn cancer genes back into normal genes. This is part of the chemistry necessary for reversing cancers. Each one of these enzyme tests is a powerful indicator of anti-aging success, while taken together they are awesome. No wonder whole foods diets have been the underlying key to success for folks **reversing their cancers or heart disease, after everything else that medicine can offer has failed**. Food is awesomely powerful.

Why not see how you can improve the whole foods in your diet to give you more food power? The key with food is simple. Just eat foods with high free radical-fighting antioxidants. What are those? Anything recently living, like a raw fruit or vegetable. And they have 2 ½ times the antioxidant power (free-radical-fighting) ability when they are organic. Also in this category are unroasted seeds and nuts, plus soaked or sprouted grains and beans.

For example, the average boxed breakfast cereal is expensive and contains sugars, pesticides, additives, dyes, and damaging trans fatty acids (hydrogenated oils). Instead you could make the "birdseed breakfast". Soaked raw buckwheat grouts and sunflower seeds drained and dressed in the morning with any fruits, yogurt or nuts make a simple, highly nutritious breakfast, and great for travel. Just add water the night before, drain in the morning and jazz up with any yogurt, fruit juice, or nut milk and cover with your favorite fruit. If soaked a few days longer they begin to sprout, which enhances nutrition.

You can get all sorts of organic, non-GMO whole grains, beans, seeds and nuts delivered to your door through the **Natural Lifestyle** catalog (1-800-752-2775). By ordering only three or four times a year you have a pantry well-stocked with detoxifying whole organic foods. No matter where you live, there's no excuse for not eating organic beans, grains, seeds and nuts! And it makes shopping a breeze because then you just pick up fresh fruits, vegetables and meats. You need never step inside the center aisles of the grocery store where all the dead, packaged, health-robbing and de-vitalized foods lie. Why are non-GMO (non-genetically modified organisms) foods important? Because corporations are now adding genes to your foods from other species. These genes direct production of toxins, for example, that have not been tested in humans (Cummins).



Whole foods can boost your detoxification capability, no medicines can do this. In fact, we use up detox nutrients in the work of detoxifying medications.

The Trans Fatty Acid Travesty

So why is a live or whole foods diet so great a detoxifier? You've learned about examples of what it contains. But what you do **not** eat is just as important as what you do eat. Besides being dead, processed foods like commercial salad dressings, breads, French fries, boxed breakfast cereals, grocery store hydrogenated vegetable, corn, safflower, soy and other cooking oils, plus shortenings and margarines harbor a stealth poison which is a major cause of illness.

In order to identify masquerading trans fatty acids, you must become an avid ingredients reader, putting back on the shelf any foods that contain soybean oil, soy oil, hydrogenated oil, hydrogenated vegetable oil, hydrogenated soybean oil, margarine or shortening. For the hydrogenation used to make these fats creates **trans fatty acids** that trigger free radicals. And once trans fatty acids set up housekeeping in cell membranes, they damage your basic chemistry, setting the stage for every body malfunction and disease, from heart disease to cancer.

As well, avoid bleached flour products that have been ground into flour months ago. With 80% of minerals lost, there is very little free radical-fighting ability remaining. For bleached white flour products may contain pesticides, sugars, dyes and additives that increase damaging free radical levels. Remember: **The longer a food has been dead, the more of this property it can pass on to you.**

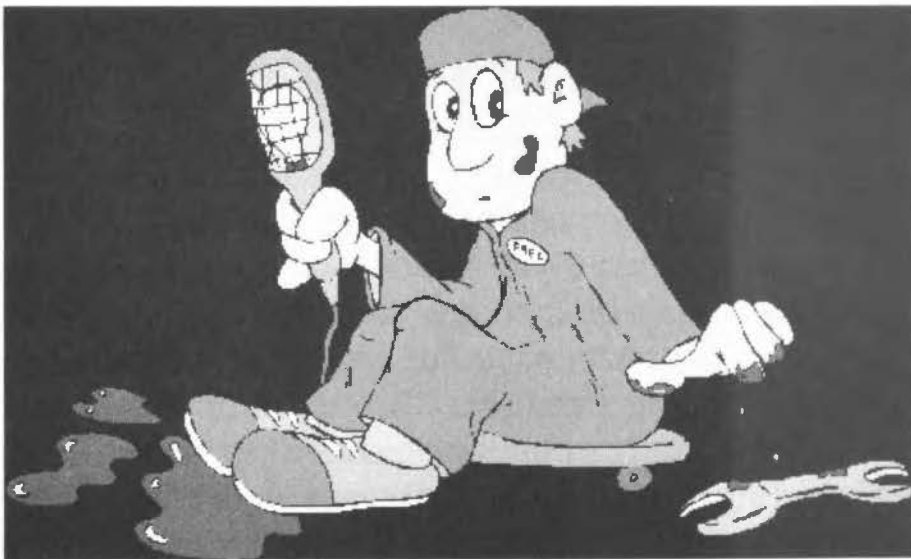


You need to take a closer look at all food ingredients to avoid disease-producing trans fatty acids. For they have a myriad of disguises like boxed breakfast cereals, hydrogenated soybean oil, vegetable oil, French fries, commercial salad dressings, breads, chips, cookies, crackers, candy bars, pretzels, ice cream, and much more.

The trans fatty acids travesty is one of the most easily correctable yet potent causes of all disease, including damage to the detoxification system. The process of hydrogenating vegetable oils resulted in a longer shelf life for all oils, which was the manufacturers' goal. The high heat changes the oil molecule, preventing rancidity. But unfortunately it twists the fat molecule so it now damages cell chemistry. Rather than protecting the cell, the cell membrane now actually promotes disease. The process of hydrogenation also lowers the level of many important vitamins like vitamin E, in addition to creating the abnormal twisted molecule called a trans fatty acid. Once the trans fatty acid gets into the fatty acid sandwich of the cell membrane, it acts like a monkey wrench in a cog wheel, slowly sabotaging natural health.

Are You Due For An Oil Change?

Undiagnosed and uncorrected trans fatty acids are an important contribution to every symptom, as they damage every aspect of basic body chemistry. When they boot out the good oils from the detox membranes inside the cell, they raise vulnerability for every toxin and infectious agent. When they replace the good oils in the cell membrane, hormone receptors no longer properly function and allergies surface. When trans fatty acids displace the good oils in the mitochondrial membrane inside the cell, they make it **impossible to lose weight** or to have boundless energy. They **accelerate every disease and every facet of aging, making it impossible to completely heal any condition** until the body's chemistry has been returned to normal.



One of the first steps to reversing any disease and assuring healthy longevity is to give your body an oil change. Get the trans fatty acids out!

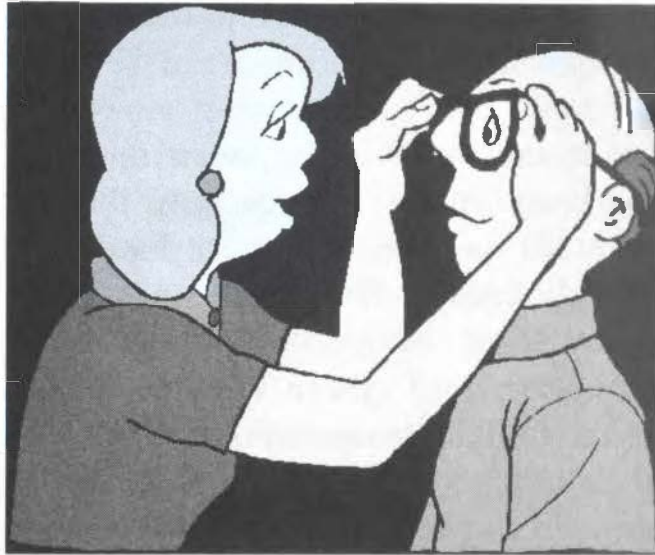
Trans fatty acids are hidden in baby formula, pet food, boxed breakfast cereals, breakfast toaster treats, candy bars, cookies, pretzels, crackers, chips, dips, breads, salad dressings, nearly all snack foods as well as TV dinners and other prepared foods. Don't let food manufacturers destroy your health so that they can make big profits.

Your physician can very easily measure your life-sapping trans fatty acids and make sure you have the correct levels of all fatty acids in your cells via a **Fatty Acid Analysis** (MetaMetrix Laboratory). Then you can get a head start on getting rid of trans fatty acids by avoiding all foods containing hydrogenated oils of any sort. Use olive oil for cooking and take a daily teaspoon of Carlson **Cod Liver Oil** (I have seen their independent laboratory analysis showing it is mercury-free). Fresh pure, mercury-free cod liver oil does not have a disagreeable taste. Because the body stores it, you can get away with one tablespoon twice a week of Cod Liver Oil and it also comes lemon-flavored or in capsules.

If Fatty Acid Analysis shows you are low in DHA (docosahexaenoic acid), add one Super DHA (Carlson) a day. This is crucial for eye and brain as well as all cell membranes.

In this century, the creation of trans fatty acids, has created more disease than any other solo manufacturing ploy. In fact, it is such a potent cause of disease, that the famed Dr. Walter Willett of Harvard School of Public Health has estimated that we could cut the number one cause of death and illness, cardiovascular disease (heart attacks and strokes), by more than half, by just getting rid of trans fatty acids in the diet (Hu). Think about it. There is no other dietary change, no medicine or surgery in the world that has that type of power.

Nothing else can cut the number one cause of death and disease by more than half or 53%. But a simple diet change can!



If your doctor has not analyzed your Fatty Acids (MetaMetrix), he is literally working blind. The first place to start to heal any part of the body is to determine what fatty acid imbalances are in the cell membranes, analogous to the computer keyboard for the whole body.

If you are serious about detoxifying your body back to the level of chemicals it had in your infancy (or even better), there is no better place to start them than with an oil change. For if you are going to rid your body of its lifetime accumulation of chemicals, you must have healthy detoxification membranes. They will be useless to you if they are still plugged by the twisted trans fatty acid molecules that result from a lifetime of eating processed foods. **Folks who forget to give their bodies an oil change risk never getting well**, for they just plain don't have the chemistry to pull it off. Cell membranes full of twisted trans fatty acids are a major reason why some

people will never get well, no matter what they do. Their basic chemistry for healing must first be repaired. It is a simple fact that is commonly ignored.

Boosting the Rest of Your Detox System

What else can you do to rev up the ability of your body to fight free radicals and detoxify their major cause, the environmental chemicals contained in our air, food and water? For starters, the detox cocktail, detox enema, IndolPlex (Tyler, distributed by NEEDS) and extra Lipoic Acid (Metabolic Maintenance brand is distributed by Pain & Stress Center) are great for boosting phase I of detoxification.

The Detox Enema

The detox cocktail you've already learned about, but did I say enema? "Uh, forget that! Let's go to the next part of the solution", you say. But don't close your mind and run away so fast. I had the same reaction when I first heard about the detox enema. That was over a decade ago and thousands of patients ago who have been enormously helped by the detox enema.

The main way the body gets rid of health-damaging and age-promoting chemicals is through the gut. You learned when a chemical first enters the body, nutrients like vitamin C can prepare an attachment site on a chemical for glutathione. The body makes a lot of glutathione that can hook onto this prepared site, making the toxin heavy and polar (electrically charged). This facilitates dragging the chemical out of the bloodstream, into the liver, then into the gallbladder and last into the intestines where it is flushed down the toilet. Hence

the vitamin C and glutathione (in the form of Recancostat) constitute your lifesaving detox cocktail.

But if you are constipated or the gut is not completely healthy (see *No More Heartburn* for more details), the nasty chemical that has been dragged into the gut attached to glutathione does not end up in the tank. Instead the glutathione falls off the chemical and the chemical is now reabsorbed into the body, ready once again to do its damage. However, if you are hosing out the intestine, you reduce the work of the gut and detoxification system, while simultaneously making sure that the nasty chemical is not reabsorbed.



The detox enema is one of the fastest ways to unload the daily work of the detox system in the gut. This leaves it freer to efficiently detoxify the poisons that continually invade the body.

I cannot say enough for the detox enema, for I have seen it abort flus, colds, and infections of all sorts as well as rescue folks from everything from hangovers to cancer. For it goes far beyond merely cleaning out the lower most sigmoid colon.

The phytonutrients in the coffee also go directly from the colon veins to the liver (via the enterohepatic circulation). In the liver they actually stimulate the synthesis of more glutathione along with the release of detoxifying bile and glutathione. In other words, the detox enema supercharges your detoxification system.

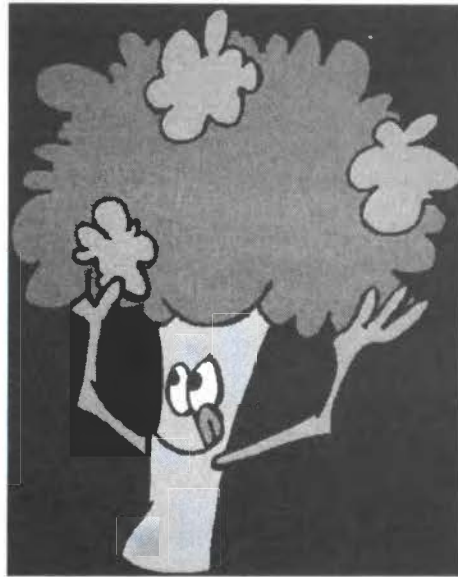
The procedure is simple. Get one enema bag (N.E.E.D.S.) and Folgers® fully caffeinated regular coffee (red can). Put 4 cups of filtered water into a pan with two tablespoons of Folgers® and bring to a boil for two minutes. Turn it off and let it cool to baby bottle temperature, pleasantly warm. Pour liquid only (not the grounds) into the enema bag (N.E.E.D.S., see resources) and hang it at waist level (no higher) in the bathroom. It is easier if you make it the night before and merely warm it up in the morning for your "hot date with Juan Valdez".

Lie on the floor and insert 2 inches of the tube (lubricated with water, saliva or olive oil) into your rectum. Unclamp the hose and let half (2 cups) flow into the rectum. Rest and read something peaceful for ten minutes. Get up and expel the enema into the toilet. Repeat once. What could be simpler? (If you need more convincing about the importance of this simple, harmless and highly effective detox tool, or have any questions about it, please read the much more thorough details in *Wellness Against All Odds*.)

IndolPlex for Hormone Rescue

One phytochemical can thwart the hormone damage caused by environmental plastics and pesticides, IndolPlex (by Tyler, a division of Integrated Therapeutics). You don't want to

miss out on this lifesaving detox aid. The facts began to emerge when scientists were curious how the macrobiotic diet could reverse cancers after everything that medicine has to offer had failed. Elaine Nussbaum was a New Jersey housewife in her 30s when she developed cancer of the ovaries and uterus. She had a total hysterectomy, but the cancer rapidly returned, spreading viciously to the lungs, liver and back bones. When the back bones became infiltrated with cancer they turned to mush and collapsed.



IndolPlex is a concentrate of Brassica phytochemicals to push metabolism of estrogens to the safe, non-cancer causing (2-hydroxylase) form. Since it also revs up both detox phases, everyone can benefit.

After two years she was bald, bedridden, 78 pounds, wracked in incredible pain night and day, and literally full of metastatic cancer. In spite of two years of intensive chemotherapy and radiation, her doctors announced that they had no more to offer and were stopping all therapy; she had two weeks to live. In fact she had pneumonia and they did

not dare give her an antibiotic because she was so frail, they were sure the antibiotic would kill her.

At that lowest point of desperation, she went on the macrobiotic diet and it is over 22 years later and she is very well. She was literally rescued from the jaws of death with a mere diet. I lecture with her every few years in Vermont and she's usually just coming in from jogging. She wrote about her recovery in *Recovery From Cancer* (1-800-846-6687 or prestigepublishing.com). When I read her book I knew my next mission was to meet her and go and study with the top macrobiotic counselor in the world, Mr. Michio Kushi. That resulted in publishing the two books that show folks in detail how to accomplish the same macrobiotic diet (start with *You Are What You Ate* then proceed to the sequel of lifesaving details in *The Cure Is In The Kitchen*).

Meanwhile, researchers at Johns Hopkins and other centers around the world wondered what might be in foods that could make them such potent cures for cancer. For if they could figure this out, there would be millions of dollars made if they could synthesize this factor into a drug form. Out of this research came the fact that broccoli and other food members of the Brassica or cruciferous family of vegetables (Brussels sprouts, cauliflower, kale, collard greens, watercress, turnips, horseradish, mizuna, cilantro, and more) contain God-given phytochemicals that rev up both phase I and phase II of detoxification.

You have learned that the plastic wrap and plastic bottles that engulf the majority of our foods contain environmental endocrine disruptors (EED) called xeno-estrogens. This means these phthalates or plasticizers are estrogen mimics.

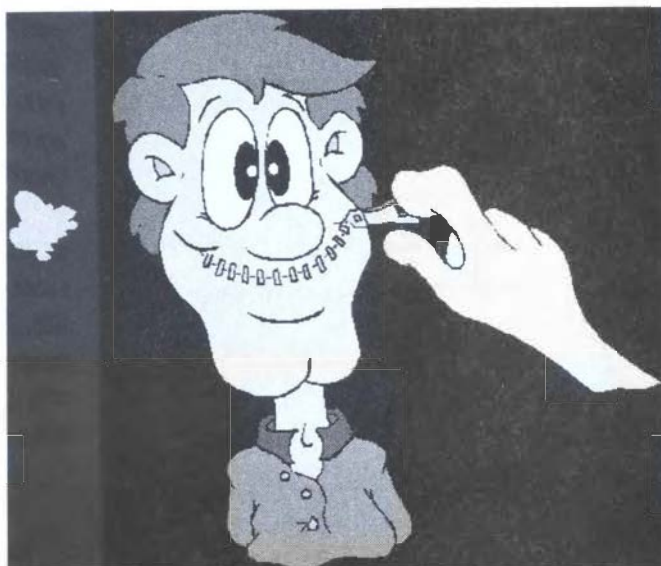
These plastics leach right out of the wrappers and bottles and into our foods. Once in the body, they head for places with high numbers of hormone receptors like breast, thyroid and prostate tissues. Here they get stored until they cause nasty diseases like cancer. They have even caused an epidemic of 6-month-old to 6-year-old girls to develop mature breasts and menstrual periods.

But God has provided foods like the Brassica family, rich in phytochemicals (indole-3-carbinol which is metabolized to diindolyl methane or DIM). DIM, formed in our bodies when we eat broccoli and Brussels sprouts, metabolizes these estrogen mimics away from the "bad estrogen" (the 16-hydroxylase form) that triggers cancer, and into the "good estrogen" (2-hydroxylase metabolite) that protects us against cancer (Chen, Zelig). Fortunately researchers have been able to concentrate DIM in the form of **IndolPlex** (Tyler, N.E.E.D.S.). The beginning dose is 2 capsules of this nonprescription phytochemical (natural plant-based supplement) twice a day to rev up detoxification of hormones and environmental hormone mimics or destroyers.

Estronex Differentiates Between the Good and Bad Hormones

IndolPlex is an indispensable part of your detoxification program. It should be taken by every woman who is on estrogen hormone replacement therapy, like Premarin. Unfortunately, most physicians fail to recommend this lifesaving step, which is one reason why estrogen hormone replacement therapy more than doubles the risk of cancer. Luckily you can determine if your body is metabolizing its hormones into the cancer-causing form. Regardless of

whether your hormones come from the plastics in your foods or from prescribed estrogen replacement therapy, you can measure whether you have too many of the 16-hydroxylase metabolite that goes on to trigger cancer. This life-saving step is as easy as asking your doctor to write a prescription for the **Estronex** test (available from MetaMetrix Laboratories, see resources at the end of the book). Then adjust your level of IndolPlex and other detox nutrients so that you have a preponderance of the "good" protective estrogen metabolites if you are in the danger zone.



IndolPlex is one of the best kept secrets in natural medicine. As a concentrated God-given phytochemical from broccoli, it has numerous benefits. Through its ability to rev up phases I and II of detoxification, it has stopped chemically-induced cancers, and markedly lessened the carcinogenicity of EEDs like plastics, pesticides and detergents. As well, it prevents prescription estrogens like Premarin from metabolizing into the cancer-causing form.

An important fact for everyone to know is how their environmental estrogens and the estrogens that their bodies make (yes, men make estrogen as well) are being metabolized. Ask your doctor to write a prescription that says **Estronex**

Test. Once you have the prescription, call the 800 number for MetaMetrix (resources) and get the kit, following the directions to add your urine in the privacy of your home. Then call the 800 number to have the kit picked up and the test will be performed by the laboratory. It couldn't be easier. What does it show? Exactly what you need to know: how much of the cancer preventing 2-hydroxylase versus the cancer-causing 16-hydroxylase estrogen metabolite is your body making. For only when you are armed with this information are you going to be able to change that ratio, starting with IndolPlex. All control over the body begins with adequate knowledge.



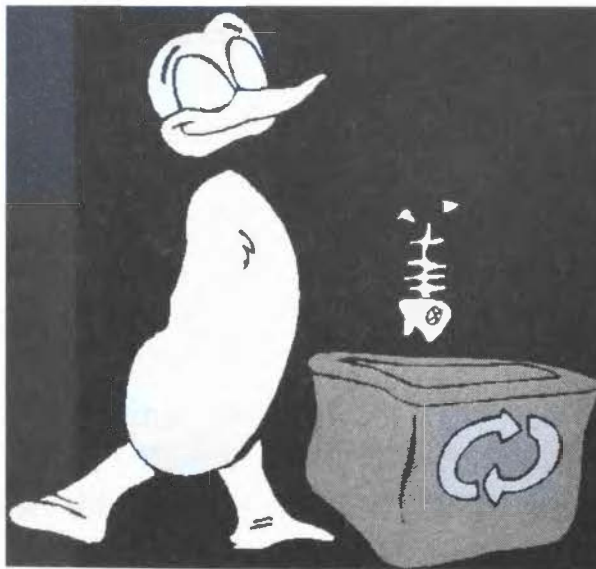
*You may think those prescription estrogens are doing wonders for you, but you have no idea whether they are promoting cancer until your doctor orders the simple urine test that you can do at home, the **Estronex** test.*

Lipoic Acid, the King of Antioxidants

Lipoic acid! Is there no end to these unpronounceable names? But lipoic acid (a.k.a. thioctic acid) is made by the

body. And it's a name you had better become familiar with if you are going to take charge and not only get yourself well, but keep yourself well. Yes, you're right, it is the third ingredient in your detox cocktail. But it is so important that you need to know more about it and you could often benefit from extra. When we overdo we can get anxiety, exhaustion, and body aches. One of the causes for all three of these symptoms is a buildup of **lactic acid** in the muscles and the blood. How does the body neutralize this? With lipoic acid. We must have it, as it is our universal antioxidant.

I first gained respect for lipoic acid when I learned that it rescued folks from death after accidentally ingesting poisonous mushrooms. To this day there is no known treatment for poison mushrooms, except emergency intravenous lipoic acid. Unfortunately many physicians are unaware of this and each year whole families needlessly die.



If you can afford only one antioxidant, make it lipoic acid, for one of its functions is to recycle the other body antioxidants like vitamins C and E. Recycling our detox nutrients is a powerful step in detoxifying the body.

Lipoic acid is such a potent antioxidant that in combination with other liver supporters like silymarin and selenium, it has spared people from having to receive a liver transplant for hepatitis. It inhibits the HIV (AIDS virus) and other viruses from reproducing and growing in culture dishes. It also protects against the damage of radiation. It is so important in inhibiting the development of cataracts, nerve damage, heart attacks, impotency, infections leading to gangrene and amputations, and other indicators of accelerated arteriosclerosis and diabetes, that it should border on malpractice to forget to prescribe this nonprescription nutrient for diabetics.

When chemicals get into our bodies they form not just one kind of free radical or reactive oxygen species (ROS), but many types of free radicals. Fortunately, as the following examples show, we have in our bodies many types of free radical quenchers:

- glutathione neutralizes the hydroxyl radical
- taurine neutralizes the hypochlorite radical
- vitamin E neutralizes the peroxyl radical
- beta carotene neutralizes the singlet oxygen radical, and
- glutathione peroxidase neutralizes the hydrogen peroxide radical.

No wonder lipoic acid is called the **universal antioxidant**, because it can quench nearly all of these free radicals. And it also recycles antioxidants like vitamin C and vitamin E back into their useful forms. In other words, once an antioxidant like vitamin C gives up an electron in order to quench the wildly destructive activity of free radicals (like the carcinogen trichloroethylene in this morning's decaffeinated coffee), then

vitamin C becomes useless. It is no longer able to donate an electron to turn off further free radical damage. Lipoic acid, however, restores this electron to vitamin C or vitamin E, restoring their usefulness, without damaging its own chemistry. The perfect recycler!

Incorporate two **Lipoic Acid** 300 mg into every detox cocktail (Metabolic Maintenance or Pain & Stress Center). If you choose another brand and have arthritis caused by nightshades sensitivity (see *Pain Free In 6 Weeks* for details), make sure the company does not make their lipoic acid from potato, as many do. This will flare your arthritis and frustrate you because you won't know the source of the nightshades and unrelenting pain.

Glycine

As you have learned, the simple daily detox cocktail can keep your body from stockpiling or accumulating so many chemicals. It does this by revving up phase I of detoxification with Vitamin C Powder and revving up phase II with glutathione, Recancostat being my favorite form. And if you want to add even more power to your detox cocktail you can add Lipoic Acid, which you just learned about. If however, you want to make your detox cocktail even more potent, add glycine.

Glycine is a very simple amino acid, and it is also one of the three ingredients that the body uses to make its own glutathione. But just as the body hooks glutathione onto unwanted chemicals to help drag them out of the blood and into the stool, it uses glycine to help drag them out of the blood and into the urine. For example, if they have been

painting at work and you get a nasty headache from it, you can prove that the paint is what did it. If the urine hippuric acid is elevated, this is a sign that the body hooked glycine onto toluene in the bloodstream to drag it out into the urine as measurable **hippuric acid**. The main source for that toluene was probably the new painting or a new carpet, making urinary hippuric acid an easy test for proof of toxicity when you need it. You can get a urinary hippuric acid from MetaMetrix by just calling the 800 number after your physician has written a prescription for hippuric acid. Once you get the kit, put your urine in it according to the directions, then call the 800 number to have the kit picked up. What could be easier?

One of the main ways that phthalates or plasticizers cause liver cancers is by damaging the chemistry of little organelles inside the cell. In molecular biochemistry this process is called peroxisome proliferation. The important thing is that glycine can prevent this (Rose). Furthermore, glycine can protect against cadmium toxicity (Shaikh). When you realize what a potent detoxifier it is, it probably comes as no surprise that it also protects the lungs against other types of toxins (Wheeler, Zhong). If that were not enough, glycine has some other very unique properties like zapping sweet cravings, helping hyperactive kids and anxious adults with jangled nerves and even has improved schizophrenia (Heresco-Levy), epilepsy, depression, learning disability and memory. It also helps people thwart hypoglycemia and fatigue.

With all of those benefits, you can bet that it should be added to your detox cocktail, if you choose. You can use one or two **Glycine** 500 mg capsules (Pain & Stress Center, Metabolic Maintenance) with every detox cocktail. Or if you need to

calm or detoxify yourself even quicker, because it has a sweet pleasant taste, you can break the capsule open and drop the contents under the tongue. If you prefer, you can dilute the powder in water for fast absorption.

Combination Products

Because there are so many nutrients that the body makes to accomplish detoxification, it is handier to find a product that contains multiple free-radical fighters rather than use them solo. One great combination product is **Cyto-Redoxin** (Tyler), 1-4 capsules 2-3 times a day to boost both phase I and II of detoxification. Cyto-Redoxin contains extra anti-oxidant vitamins A, C, and E, as well as zinc and selenium, all needed in detoxification. As well, it contains N-acetyl cysteine (NAC), the precursor (or starting ingredient) for your body to make even more glutathione, the major anti-oxidant and detoxifier in the body.

As you would expect, as people age, and as people have more diseases, their glutathione levels go down. Conversely, the healthier they are and the younger, the better the glutathione levels. Many of us can vouch for the almost instantaneous rescue that glutathione can produce when we are exposed to chemicals that induce symptoms. For example, if you have a headache or feel irritable, spacey, or achy from the wrong foods or chemicals in your environment, a smoky meeting, traffic, or the office renovations, the detox cocktail can perk you up in less than half an hour.



Any amount of chemicals seen in a blood test is like the tip of an iceberg. Less than 1/10th of the iceberg is visible above the water's surface. Over nine times that lies hidden beneath. Likewise, environmental chemicals are stockpiled in all other organs in addition to being inside blood cells.

And as glutathione levels go down, free radical levels rise. NAC, aside from boosting glutathione production, enhances our ability to kill invading infectious bugs and inhibits some viruses from growing in our bodies, another reason to boost it during times of impending infection. Since glutathione is the determining factor of whether drugs like Tylenol® can lead to a liver transplant, it is even more reason to take it whenever the body is under stress. No matter what disease or medical problem you look at, we can all benefit from an increased ability to detoxify through glutathione (as Recancostat in your detox cocktail) or with its precursor, NAC in Cyto-Redoxin.

But that is not all Cyto-Redoxin contains: lipoic acid, the universal antioxidant, coenzyme Q10, and green tea catechins.

All of these are such potent anti-oxidants that they have inhibited cancers from forming in experimental animals that were given a chemical that invariably produces a cancer. Green tea catechins, for example, have been shown in the *Journal of the National Cancer Institute* to stop cancer cells from growing, have stopped cigarette-smoking humans from gene mutations that cause cancer, and have sopped up ROS intentionally triggered by heavy metals. This prevented them from going on to trigger disease. And can work right in the membrane of the mitochondria where energy for detoxification is made.

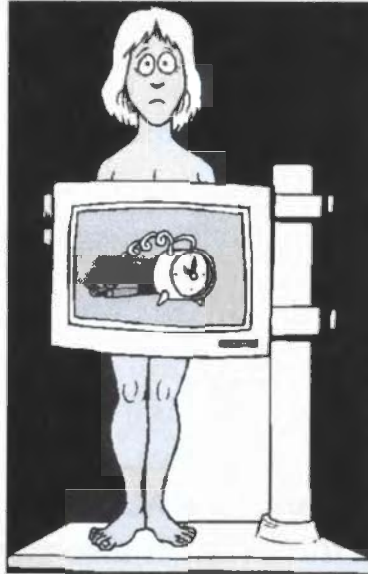
Or an alternative combination detox product is Carlson's **Glutathione Booster**. It contains vitamins C, E, B-2 and the mineral selenium, very important in glutathione action. As well it contains N-acetyl cysteine (NAC) so your body can make more of its major detoxifier, glutathione. In addition it contains the herbs Silybum and Allium, both of which (among other things) protect the liver. It also contains lipoic acid, L-glutamine and L-glycine for further detoxification.

And if you have much chemical overload, as with chemical sensitivity or other diseases caused by chemical overload and free radical excess, you can use either of these and more as you will learn. As you start to understand more about the mechanisms of cause and cure for diseases, you will appreciate how every little choice in your daily routine makes or breaks your total health package.

Detox Your Gut

Although every cell in the body has a little detoxification plant right inside of it, over half of the detoxification for the

entire body occurs in the gut. If you remember nothing else about the gut, remember this: **The intestinal lining houses not only half of the immune system for the whole body, but also half of the detoxification system.** Because of this, you can't *completely* heal any disease, regardless of its label until the gut is healthy.



If the gut isn't healthy, then nothing else can heal, for it houses half the detoxification system and half the infection-fighting immune system. If healing is stalled, check the gut, for it is a veritable time-bomb waiting to destroy your health.

Unfortunately, most people's intestines are loaded with nasty bacteria like *Klebsiella* and *Citrobacter* (usually from eating out frequently or from processed foods) and yeasts like *Candida albicans* (from antibiotics, birth control pills or a diet high in sweets). The problem is that bacteria like *Klebsiella* and *Citrobacter* are sensitive to antibiotics. But once you use antibiotics they cause overgrowth of yeasts. Yeasts are sensitive to Nystatin and Nizoral (prescribed antifungals), but

one of these (Nizoral) has side effects of its own as well, such as potential liver damage. So what is the solution?

Kyolic "Kicks Butt" With Intestinal Organisms

Kyolic (Wakunaga) is a unique proprietary formulation of aged garlic that can kill all of these bacteria and fungi, yet without side effects. If that doesn't sound great enough, Kyolic also revs up the ability of the body to detoxify environmental chemicals. For example, researchers can create experimental lab animals with cancer by giving any number of solo environmental chemicals. But if you give Kyolic, it revs up the ability of the animals to detoxify the chemical so much that they do not get cancer. Kyolic is wonderful to take if you are foolish enough to use Tylenol (acetaminophen). It protects the liver against the (sometimes fatal) damage that acetaminophen is so notorious for.

Kyolic increases the body's manufacture of both important detoxifiers that you just learned about, glutathione and superoxide dismutase, and in additional ways revs up both phase I and phase II of detoxication. In fact it is so potent that it also helps detoxify aflatoxins, the cancer-causing mycotoxins made by a certain fungus, *Aspergillus*. As well as being antifungal and a great antibiotic for bad gut bugs, it even protects the gut against the damage produced by chemotherapy and radiation. If that weren't enough, it also helps to detoxify heavy metals and strengthens the killing power of white blood cells needed to protect the gut.

But there is only one form of garlic that has over 280 research papers documenting its superiority over all other forms. In fact studies have compared Kyolic with all of the other

leading brands on the market and it came out way ahead (Milner). In addition, Kyolic has more global multi-center research behind it than any other garlic preparation in the world (Milner, see resources). The science of the unique components of aged garlic has been precisely mapped out. It is the numerous components that emerge from the patented natural aging process that enable this one form of garlic to have so many beneficial attributes and mechanisms for boosting and maintaining healing.



Kyolic, a unique patented form of aged garlic with enormous research behind it, heals and protects detoxification in a variety of pathways. It even prevents the carcinogenic chemicals generated from barbecued meats from triggering stomach cancer.

The dose? Use 2-3 capsules of Kyolic 2-3 times a day (free samples available from 1-800-421-2998). More potent is Kyolic Liquid (1 tsp = 4 capsules = 1600 mg), 1 tsp. 4x daily. I would suggest a trial of it for at least a month every year to make sure you have cleaned out the gut. For an even greater

boost for gut health, use Kyo-Green, the companion chlorophyll product, to cleanse the gut of nasty toxins, a tablespoon three times a day in water.

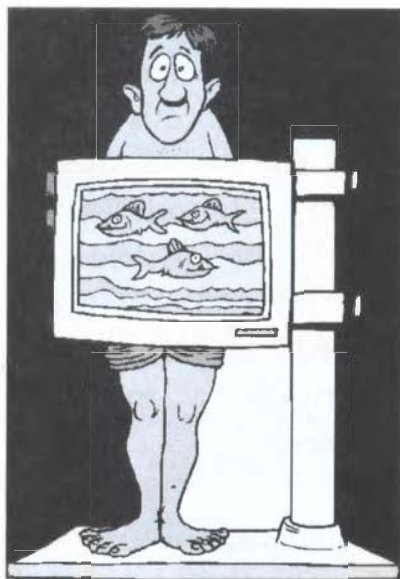
SeaVive Revives the Leaky Gut

Bad bugs however are not the only problem with the gut that compromise your detoxification capability. After you have had bad bugs in the gut for any length of time, the inflamed lining and resultant damage often cause large spaces to open up between the intestinal cells. We call this condition intestinal hyperpermeability or *leaky gut syndrome*. This leakage of toxins into the bloodstream depletes or uses up your detox nutrients. As well, the leakage of putrid intestinal metabolic products into body tissues leads to the development of fibromyalgia, food allergies, chemical allergies, chronic fatigue, a multitude of auto-immune diseases, and much more.

So once you have killed off the bad bugs, you also need to heal that leaky gut. This can be done nicely with another nonprescription, over-the-counter product, **SeaVive** (Proper Nutrition). It contains the highest quality fish proteins that have been hydrolyzed into peptides that are much more easily used by sick intestinal cells to restrengthen themselves, thereby regenerating the immune system functions that line the gut. One of the important proteins is glutamine, the most essential amino acid for healing the leaky gut.

This product, a triple whammy, also contains a bovine colostrum, the first milk of nursing cows which is highest in protective antibodies. For example, we often see secretory IgA deficiencies in the intestinal analyses of folks who don't

even suspect they have a single thing wrong with their guts. But secretory IgA is the main antibody of the intestines and the first defense against our daily invasion of bugs. Of prime importance is that colostrum has been shown to prevent leaky gut which is so notoriously caused by NSAIDs like Aleve, Motrin, Celebrex, Vioxx, etc. (Playford). That fact alone suggests millions of Americans should be on it.



SeaVive can heal the leaky gut. Its hydrolyzed fish proteins (mercury-free) heal the gut lining, while beta-glucan and colostrum further strengthen the bug-fighting ability of the gut's immune system.

The third ingredient of SeaVive is a factor derived from the cell wall of yeasts similar to those used in bread making. This factor, called Beta glucan, is extremely powerful in boosting the immune system. For example, it revs up macrophages or the white blood cells, making them much more potent in attacking, engulfing, and killing bacteria, viruses and cancer cells that they find roaming the body. As well, Beta glucan boosts the body's production of NK (natural killer) cells in

addition to boosting TNF (tumor necrosis factor), both of which are made by the body in order to kill off cancer cells and other unwanted invaders. Take 2-3 capsules 2-3 times a day to help heal, regenerate, and boost the detoxification and immune functions of the gut.

I'm particularly drawn to companies that have only a few products, as the makers of Kyolic and SeaVive do, because it behooves them to produce superior products, since all their eggs are in one basket, so to speak. Their entire income depends upon providing superior quality nutrients that stand head and shoulders above others and are well-researched. Such is the case with both of these companies.

By the way I do not own stock in any of the companies, products, etc. in this book and am not employed by anyone. Furthermore, I have never accepted paid advertisements in my newsletters or books. I have spent 32 years in medicine trying to find the best products for my patients and readers so I can share this information with them. By not being controlled by anyone, I maintain this freedom to choose what I feel is best, and change my mind as better things emerge. And as you'll see from the scientific references in the back of the book, each of these companies can stand on their own. They don't need me endorsing them.

Restoring the Good Bugs

In addition to Kyolic and SeaVive to rescue the gut, you need to put back the good bugs. Lactobacillus and Bifidobacterium will discourage the regrowth of bad bugs that you will be continually exposed to through foods. In addition, these probiotics have special properties that nourish and boost the

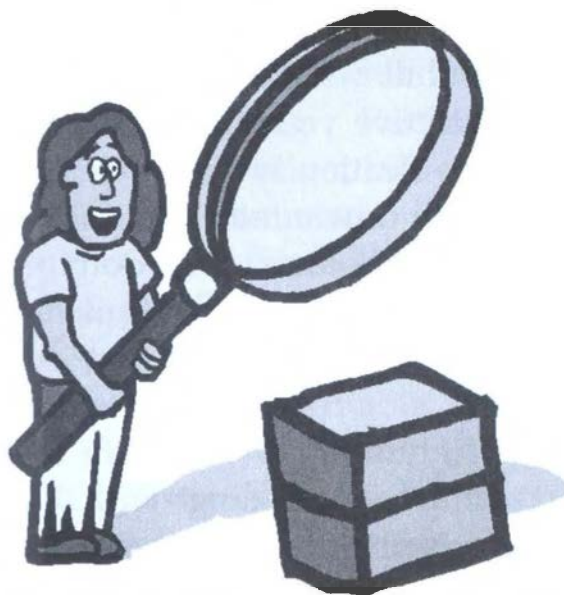
detoxification and immune properties of the gut lining. They even act like a sponge to sop up free radicals in the gut generated by Candida and other nasty organisms. They prevent the free radicals from eating holes in the intestinal cell membranes, thereby destroying the gut lining and its functions (Lin).

You have lots to choose from as there are many fine products. The best test is to take a triple or quadruple dose of your chosen probiotic on a one-time basis. If this causes abdominal distention, gas and bloating, then you know that this product is going to grow in your gut and re-establish the good protective bacteria or probiotics. Vital 10 and Culturelle (both supplied by Klaire Labs), Jarro-Dophilus EPS (by Jarrow), and Essential Formulas (Vital Nutrition) are some of the forms I have seen give us exceptionally good levels on stool assay.

One of the first tests for determining (1) whether you have nasty organisms in the gut destroying your detoxification system, and (2) to see if you have enough protective probiotics is the **Digestive and Microbial Stool Panel** (MetaMetrix).

Another important specialized gut study that is also not available in hospital labs is the **Intestinal Metabolic Markers** (MetaMetrix). It is just as easy for you to perform as the DMSP, above. What is unique about this test is that it can show if you have abnormal bacteria, protozoa or fungi in the gut that do not grow out on the DMSP or any other stool studies. For it measures organic acids that could only get into your urine from your bloodstream by way of organisms living in your gut that make these organic acids.

You see, if a scientist looks at the acids in our urine he knows they came from a human, for only people make certain types of these organic acids. Likewise, there are organic acids that are metabolic byproducts unique to fungi, like Candida. Therefore if fungal metabolic byproducts are found in your urine, it means those fungi are growing in the gut, moving through your gut wall and into your urine. This test is also a good indicator of whether the leaky gut is present and needs the corrective products you just learned about above.



If no one knows what's wrong with you, they probably haven't begun with a DMSP to determine what nasty bugs, like Candida are in the gut, making it leaky

You Determine How Much You Stockpile

By now you know that thousands of environmental chemicals are everywhere in our air, food, and water. They are inescapable. And worst, they are in our bodies.

So a simple logical first step is to do your daily detox cocktail to improve your body's ability to get rid of them. You can do it with 2, 4, or more ingredients as described and always with 1-2 glasses of good water. Warning: never do it before going to the dentist. I've had to have an injection of anesthetic every 12 minutes because I had my detox pathways so revved up! Not fun. Do it when you get home from the dentist.

Because environmental poisons overwhelm our ability to detoxify them, they slowly accumulate. How high the total body burden or total load of chemicals gets, determines how fast we will go downhill with disease. How much you are exposed to, how protective your diet is in antioxidants, and how strong your detoxification system is determines how fast and how many of these unwanted chemicals you can harbor without showing any symptoms. We don't get cancer or a heart attack overnight. We spend our whole lives stockpiling for it.

Whether you are fighting for your life with cancer or congestive heart failure, struggling with colitis, arthritis, Parkinson's disease or some other disease or seek the winning sports' edge and a vivaciously productive longevity, the choice is yours every day. Every night you can go to bed knowing you have made your total cumulative load better, same, or worse. The choices you make every day add to that total package. You are truly captain of your ship.

Environmental Toxins Cause All Human Disease

Have you heard food manufacturers and chemical companies tell you that the minuscule amount of chemicals are harmless? That there is no evidence that they cause disease? I hope by the end of this chapter you'll answer them with an emphatic "Hogwash!"

Stockpiled chemicals stored in our fat don't stay put. They slowly leach out and damage our machinery, producing disease and accelerated aging. Pesticides, volatile organic hydrocarbons, auto and industrial pollution, mycotoxins, heavy metals and more mimic any disease. They can cause any symptom or disease from high blood pressure, heart failure, osteoporosis, high cholesterol, arthritis, or Alzheimer's disease to fibromyalgia, degenerating disks, Parkinson's disease, depression, fatigue, irritable bowel, loss of libido, colitis, asthma, eczema, prostatitis, esophagitis, atrial fibrillation, GERD (gastroesophageal reflux disease), hearing loss, headaches, recurrent sinus, ear or throat infections, diabetes or cancer, and more.

Myth: Small Amounts Are Harmless

This myth was touted all over the world before DDT was partially banned decades later. Scientists were appalled to find out that every amount that we have created stays in the environment and merely cycles through soil, plants, animals and back to the soil, plants, and animals. They were also surprised that it was one of the strongest cancer-causing chemicals that man had ever devised and can cause or mimic

any disease including common allergies, recurrent infections, hormone deficiencies, auto-immune diseases and cancer. Sure, small amounts would be harmless if we had a way of getting rid of them, but instead they slowly stockpile. Right now, there are no animals, no plants and no humans without detectable levels of DDT or its metabolite DDE in their bodies (Turusov, W.H.O.). Furthermore, it appears there are no oceans, seas or lakes that are free of some of this pesticide. To quote Turusov, "DDT residues have been found in all birds and fishes analyzed, even in those living in desert areas or in the depths of the oceans." Even the breast milk of Eskimos at the Arctic Circle has detectable levels that mothers innocently transmit to their babies. And in spite of the known carcinogenicity and persistence in the environment and our bodies, DDT is currently heavily used in many other countries.

There is no question that these accumulated toxins (along with undiagnosed nutrient deficiencies) are behind every disease. **Cadmium** accumulation from seafood, dental work or auto and incinerator exhausts can trigger osteoporosis, back pain, high blood pressure, hip pain, arthritis, kidney disease, BPH (benign prostatic hypertrophy), chronic fatigue, cancer or damage vision. **Arsenic** from cigarettes, treated playground and deck wood, pesticides, paints and porcelain dental crowns and inlays can give mysteriously painful burning skin, bloody colitis, or heart disease with arrhythmias like atrial fibrillation or paroxysmal supraventricular tachycardia, or congestive heart failure as well as weakness or paralysis, anemia or cancers.

Mercury, from pesticides, fungicides, tuna and other fish, dental "silver" fillings, and paints, triggers depression, chronic

fatigue, leukemia, symptoms that mimic multiple sclerosis, fibromyalgia, resistant Candidiasis, chemical sensitivity, shoulder tendonitis, or body burning. It merely depends on each person's total load or combination of factors. And these are by no means all of the symptoms these environmental toxins produce, just examples of some of the more commonly documented ones.

Environmental Chemicals: The Master Mimic in Medicine

If a woman consults her physician about osteoporosis or chronic back pain or a man has hypertension or prostate cancer, what physician looks at their cadmium levels? Yet this environmental heavy metal, unavoidably common in our foods, can be the cause of their symptoms. And what neurologist checks pesticide levels in patients with Parkinson's disease? Yet when researchers need 500 rats with Parkinson's disease for pharmaceutical drug experiments, they only need to give the rats one dose of an organic pesticide to get experimental rats with full-blown Parkinson's disease.

But have you ever met a neurologist who checks for pesticide levels and detoxification capability? Or have you ever heard of a neurologist who checks aluminum levels in Alzheimer's disease or cyanide levels in multiple sclerosis or jet fuel hexane levels in folks with numbness and tingling, memory loss or depression? We hear about devastating auto-immune diseases like lupus, thyroiditis, multiple sclerosis and hepatitis, but where are the physicians who check styrene and vinyl chloride levels that can cause these?

One man presented with years of depression and when we identified heavy levels of aluminum in his red blood cells, he realized he had totally forgotten to mention the years of antacids he took for his stomach. When the aluminum was removed through oral detoxification over a period of three months, his depression melted away, never to return in over 15 years.

As testament to the fact that common everyday chemicals silently stockpile in our bodies over a lifetime, you recall the U.S. government's EPA studies that show that out of hundreds examined, 100% of human fat biopsies examined reveal **styrene, dioxin, xylene, dichlorobenzene** and more (EPA). Most of these are blatant carcinogens, and no one is free of them. We are all **walking time bombs**. No wonder the overall official annual improvement in survival from cancer over the last 30 years is embarrassingly under 0.7%. If we are "winning the war" as the misguided statisticians like to claim, why is everyone filled with doom and gloom at the diagnosis? Why is median survival (for all types and stages lumped together) stalled at a paltry six years? And this statistic is particularly alarming considering the dramatic improvements in earlier diagnosis, not to mention the billions of dollars that have been spent on research.

Since you don't have a lot of time to waste, let's dive right in using as an example of any disease, the most dreaded disease, cancer. The war that was declared on it decades ago has been an abysmal failure, as the official statistics bear out. We have a walloping total 0.7% increase in cancer cures per year in the last decade (*Cancer*, 82:1197, 1998). No, that is not a typo. A 7% improvement would be pretty sad for the 30-year tally, considering the staggering billions of dollars that have been spent on research and clinical trials. But less than 1% is

shocking. 0.7% is very close to a standstill, and could even be a negative considering the advances in earlier diagnosis.



Contrary to what most believe, we don't get rid of our daily toxins. They stealthily accumulate until one day, years later, we suddenly awaken with disease.

Furthermore, whenever a statistic that minuscule is promoted as a successful "winning of the war on cancer" as this was, it sure fuels my mind with suspicions of "creative" statistical manipulation. For this official statistic is even more alarming when you realize that anyone surviving five years and one second from their time of diagnosis goes down in the records as a cure. Since the last 30 years has resulted in an explosion of sophisticated diagnostic tests, as well as increased awareness (in part stimulated by a rash of malpractice suits for delayed diagnosis), this alone would suggest that there should be a more pronounced improvement in survival. With

that in mind, the overall "improvement" is more realistically a negative percentage.

If you have been told "We don't know what causes cancer", you've been misled. For scientists agree as numerous medical studies conclusively show that **95% of cancer is caused by diet and environment** (Perera). As a simple example of the potency of environmental agents to cause cancer, just recall how a researcher gets 500 rats for his cancer studies. He only has to phone the laboratory, where giving merely one dose of a chemical can create cancer. And there are hundreds of chemicals that can induce cancer in research animals, with most of them being a common part of our everyday environmental air, food, and water.

Luckily, hundreds of studies show that giving any number of nutrients, before, during, or after the chemical will inhibit the formation of cancer (DeFlora). How does this happen? These nutrients empower the body to detoxify the chemical so that it cannot trigger cancer. The nutrients merely boost normal detoxification. Clearly **detoxification is the key to prevention**.

Volumes of United States government Environmental Protection Agency (EPA) studies confirm the ability of common everyday chemicals that are unavoidably present in our air, food, and water to cause cancer. In fact, I spent the last couple of years devouring over 300 pounds of EPA toxicology books. As an example, **the common carpet**, you recall, **emits over 200 volatile organic chemicals** which include formaldehyde, benzene, toluene, acetaldehyde, chloroform, xylene, phenol, benzaldehyde, hexanes, chlorobenzenes, styrene, butadiene latex and much more. The

scary part is that most of them are carcinogenic just by themselves. The combined effect of multiple carcinogens is synergistic, meaning one plus one does not equal two, but more like ten.



Ninety-five percent of cancer is caused by diet and environment: the results of the lifetime accumulation of trash we do not clean out of our bodies.

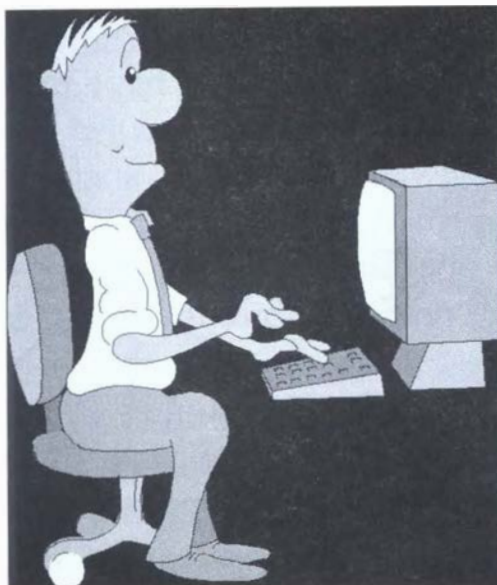
Benzene is a known cause of leukemia and our exposure to it is not just limited to the synthetic backing of carpeting. You can get a hefty jolt of it each time you tank up your car with gasoline. **Styrene**, a related xenobiotic outgassing from carpet, also out-gases from plastics. It has been proven to cause a variety of mysterious neurotoxic symptoms:

- numbness and tingling
- loss of sensation
- bizarre pain syndromes
- weakness, toxic encephalopathy or brain fog with inability to concentrate
- unprovoked mood swings and memory loss

- paralysis
- convulsions
- tremors
- blurred vision
- hearing loss
- heart arrhythmia
- spastic colon
- respiratory symptoms
- body pain
- rashes
- hair loss
- baffling weakness
- stiffness
- fatigue
- asthma, and more. So it should come as no surprise that carpet workers have increased rates of cancers and especially leukemias (Anderson).

And I haven't even begun to tell you about the health consequences of **styrene**. As you learn more about this one chemical whose barely noticeable fumes leak from plastics, Styrofoam, synthetic or fake rubber, fake wood, and fake leather, bear in mind that it is only one of hundreds of types of chemicals that you are exposed to every single day in a normal home environment. Styrene not only out-gases from computer cabinets and electrical wire coatings, but (synthetic) rubber, automobile dashboards, carpeting, construction materials, flooring, appliances, notebooks, office supplies and other plastic materials. But even more worrisome is the fact that it is part of the classification of environmental toxins called xenoestrogens.

Xenoestrogens include styrene in plastics, but are also found in pesticides (like DDT, atrazine, and scores more), detergents, the solvent/degreaser trichloroethylene, PCBs in industrial and auto exhaust, and more. You might think atrazine, a common weed killer used for corn, is something you would never be exposed to. But you ingest residues of it probably every day, because corn syrup is the most abundant sweetener in sodas, candies, ice cream, breads, cereals, jams, condiments, and other processed foods.



Computers outgas phthalates (plasticizers) from heated wire coatings, the cabinets and components. These alone can damage any gland, leading for example, to precocious puberty, fatigue, no sex drive, depression, exhaustion, or prostate or breast cancer. Because we can't live without them, we'd better learn how to rev up our ability to detoxify them.

Xenoestrogens are a group of everyday chemicals that the body can mistake for estrogens and other hormones. In fact these chemicals, often called “estrogen mimics”, *hormone mimics*, hormone or *endocrine disruptors*, or hormone

modifiers, sit in hormone receptors in cell membranes, booting out our real hormones, thus creating havoc (Topparie). Animal and human studies, for example, show exposure to these environmental hormone mimics leads to a spectrum of problems like abnormal infertility, impotence, confused sexual orientation (gender dysfunction), cancer, hyperactivity, stunted growth and damaged brain function in children. Also hypothyroidism coupled with normal thyroid blood tests can confound the physicians (O'Reilly, Pavia, Skinner, Benevicius, Kohn, Brucker, Osius).

And don't naively think you rarely have much contact with styrene and other plastics. You've learned that progressively more foods are packaged in plastics such as sodas, bottled water, baby formula, milk, fruit juices, peanut butter, mayonnaise, ketchup, mustard, and even honey. In addition, plastic wrap not only surrounds our meats, fruit, and vegetables, but the Styrofoam trays themselves also outgas phthalates into our foods. Studies prove that these carcinogenic hormone mimics migrate right through the plastic wrap and into the food (Topparie).

The big problem is that once in the body, we do not have the mechanisms to completely metabolize or totally get rid of them. Therefore **the tiny amounts that we ingest every day slowly add up over a lifetime**, until we finally reach that crucial amount which damages enough body chemistry to trigger a symptom or disease. Even the hormone-damaging plastics that the unborn gets through his mother's placenta can begin the accumulation that leads to learning disability, hyperactivity, or cancer, which has become a top cause of death in children. It is no small coincidence that hormone damaging chemicals are everywhere and that breast and

prostate cancers are on the rise, and thyroid is the third most commonly prescribed drug in the U.S.

These unavoidable environmental hormone mimics, come in a variety of disguises, from plastics to pesticides, from cleansers, solvents like TCE (trichloroethylene) and detergents to heavy metals like cadmium. Even breath samples from 350 New Jersey residents found perchloroethylene in 93% of folks, benzene in 89%, trichloroethylene in 29% and numerous other carcinogens (Wallace). Pollutants are ubiquitous and inescapable. And don't forget that *benzene is a known cause of leukemia* by itself, while *trichloroethylene was the cause of the childhood leukemia epidemic* where it contaminated drinking water in the small town of Woburn, Massachusetts. Just how many environmental pollutants that are known causes of leukemia does it take to produce leukemia in one person?

Every chemical in our environment is continually out-gassing into the air. We breathe these chemicals and because most of them are lipophilic petrochemical derivatives, they easily make their way past our lung membranes into the bloodstream, brain, and every organ, where they are trapped because our bodies are not designed to live on such an unending array of man-made pollutants. In other words, their ubiquitous use, for example, in industry as grease-cutting solvents is exactly what allows them ready access into our fatty acid cell membranes.

And the sci-fi horror does not end there, for the same U.S. government EPA study showed that 100% human fat samples contained dioxins, one of the most potent causes of cancer known. This too, comes from a variety of sources from

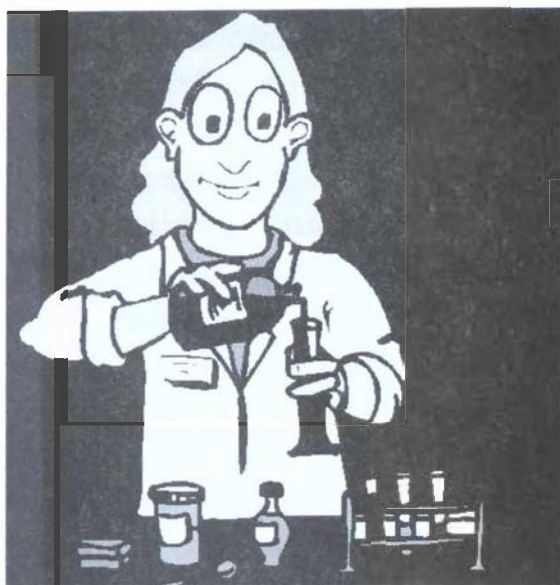
bleached paper products, diapers, milk cartons, herbicides in foods, auto and industrial air pollution, and much more.

Furthermore this government study (U.S. EPA 1984) showed **100% of human fat samples contained stored xylene** (from gasoline, auto exhaust, paints, glues, plastics, furnishings, cleansers, degreasers, laboratory fixatives, office and home construction materials, carpeting, etc.). And most of us also possess another carcinogen **1,4-dichlorobenzene** (from home and commercial deodorizers, moth balls, sanitizers in textiles for furnishings, bedding, clothes and many other products) (U.S.D.H.H.S. 1998).

No wonder we have so much cancer. When I was in medical school 35 years ago, cancer was around the 6th-10th cause of death and illness (depending on how the data was manipulated). It was unusual to know someone with cancer and when you did, they were usually over 50 years of age. Now it is literally epidemic and no age group is exempt. It is not uncommon to see a 23-year-old woman with metastatic breast cancer, a child with brain cancer or a 21-year-old man with testicular or bladder cancer. Cancer now is the second overall cause of death and illness for adults, yet **for children ages 1-15, cancer actually leads the pack as the number one disease causing death (Martin).**

Government and other scientific studies confirm that **95% of cancer is caused by diet and environment**, mediated by cumulative free radical destruction (Perera 1996 & 1997, Wiseman, Rundle). These naked electrons (called free radicals or reactive oxygen species, **ROS**) are actually the underlying biochemical mechanism of aging and all disease (Halliwell), and are enormously produced during the work of the body's

attempt to detoxify everyday chemicals. The good news is you have already begun to learn how to harness free radicals to work for your benefit, rather than your detriment.



You don't have to work in an exotic lab or in the chemical industry to get tanked up with disease-causing chemicals. Our everyday home environments are loaded.

Why am I repeating some of the facts from the previous two chapters? Because we know that repetition is the key to learning. They didn't just tell us something once in medical school. By continually building on new knowledge and adding to it from a variety of directions, the collation of facts starts to cement into a strong cohesive foundation, helping you understand clearly how you got so poisoned. For this realization is the first step to undoing a lifetime of toxicity, before it is too late.

Office Pesticides Can Trigger Cancer

It is no secret that home and office pesticides of the “safest” types can trigger brain fog, chemical sensitivity, depression, indigestion, bizarre muscle aches with flu-like syndrome and even cancer (Koloyanova, Arlien-Soborg, EPA 1999, Sullivan, Repetto, Betarbet, Klaassen). What is more scary is that studies on pesticing, as is routinely done in many offices, stores, institutions, schools and public buildings, confirms that pesticides are a serious health hazard. Yet many folks are not even notified that spraying will occur. And for many, it is done while they are at work!

One study of pesticide residues in 7 offices showed that *humans should not enter a building for at least 2 days (48 hours) after spraying*. And then, they should wipe down every surface they will come in contact with (Currie). This includes the floor, since walking kicks up dust that pesticide molecules can piggy-back on. Besides inhalation, skin contact from a desk and chair is just as potentially harmful.

Why all the fuss? Because other studies show that “normal” exposures to pesticides cause chromosomal (genetic) damage, the type that can turn on all the messages for any disease, including cancer (Lieberman). In fact, the type of gene damage that ordinary office and home pesticides can cause is the exact type of genetic damage that is used to predict via blood test (8-OHdG, ImmunoSciences Laboratory) whether an individual will soon get cancer or if he has it, whether he will get metastases.

So what is the solution? Be sure to ask about the pesticide policy at work or school. If it is done by contract, find the days that the exterminator comes and what he uses; check out

its toxicity symptoms on the Web. The only reason they get away with it is because they count on folks being too ignorant of the issues. Be sure you are not there for 2 days after application and that your surfaces are wiped down before you resume work. Show them the references substantiating this need (Lieberman, Currie).

At home, never use pesticides indoors. Consult one of the many books on natural and safer pesticide alternatives I've given in the resources chapter, and learn about more natural products that are available (A.E.H.F. and Natural Lifestyle catalogs). For example, mix boric acid powder with sugar 2:1, and sprinkle it liberally in crevices for roaches and ants. When they ingest boric acid, it rips apart their intestines and they die. Because pesticides and other chemicals piggy-back on dust particles, a good air cleaner for your office can reduce your exposure to chemicals, perfumes, smoke, molds, and dusts. Also removing your shoes before coming in the house reduces pesticide contamination.

Call the E. L. Foust Company, N.E.E.D.S., and A.E.H.F. for a catalog on not only a variety of air purifiers for car, desktop and home, but water faucet and showerhead filters, dennyfoil for sealing off walls, charcoal masks for unexpected exposures, and learn organic pest control measures (Beck, Lifton), and more. And be sure to use your detox cocktail at least twice a day for the week after pesticides are applied at work.



Never use pesticides in your home. There are always alternatives. One spraying or one flea bombing has destroyed the health of entire families.

Diseases of the Nervous System: Brain Rot

I started out with cancer as an example to explain a little about the mechanism of disease, only because it is the most feared disease. But I don't want to leave you with the impression that only the #2 cause of death, cancer, is triggered by diet and environment. So let's look at diseases of the nervous system. Alzheimer's senile dementia, Parkinson's disease, depression, paresthesias (numbness and tingling), memory loss, schizophrenia, manic depression, learning disability, autism, ALS, Tourette's syndrome, and brain fog are some of the many manifestations when the nervous system is the target organ from chemical attack (Baker,

Arlein-Soborg, Kaloyanova, Steventon, Perlmutter, Rea). In fact, the nervous system, with any neurologic symptom imaginable, is one of the primary attack sites for xenobiotic (environmental chemical) toxicity.

Recall the shocking evidence from the breath analysis of New Jersey residents documenting some of the many chemicals harbored in our bodies. Let's look at one very common household and office chemical that was **in 29% of the breath analyses** of those New Jersey residents, **trichloroethylene** or TCE. Boston University School of Medicine researchers studied TCE contamination of city drinking waters in Massachusetts, Ohio, and Minnesota.

They found TCE, a xeno-estrogen and common contaminant of most city waters, can cause distinctive neurobehavioral changes, especially **learning disability**, peripheral neuropathies (bizarre numbness and tingling and pain) and even cancers from drinking water contaminated with the ubiquitous trichloroethylene. Just looking at one symptom, learning disability, you begin to grasp a fraction of the cause of this epidemic condition. In fact, special education teachers now seem to outnumber regular education teachers, because there are so many learning disabled children.

TCE out-gases from newly dry cleaned clothes and carpets. Because it is a universal industrial degreaser and solvent, studies show it contaminates as much as 25-50% of ground water supplies (U.S.D.H.H.S. 1997, Burmaster, Page). In fact, it is the most frequently found solvent and the one detected in highest concentration (Dyken). It becomes highly toxic to nervous tissue because it creates free radicals that burn holes in body cells, destroying nerve, blood vessels, brain tissue and

more. Unfortunately you don't even have to drink the water to get TCE toxicity, for it is even rapidly absorbed through the skin from showering or bathing.



Use your detox cocktail whenever pesticides are used or you may otherwise permanently heighten your total toxic load.

In this Boston University study, many municipal water supplies had TCE levels that were 30-80 times higher than the EPA's maximum contaminant allowable level of 5 ppm. No wonder one of the communities included the famous Woburn community that had that epidemic of leukemia in young children, as well as neurobehavioral problems and other symptoms at all ages (White).

TCE toxicity alone can cause any category of nerve toxicity with a variety of vague, difficult to interpret labels, like motor neurone disease or neurodegenerative disease. But these diseases of the nervous system all have one thing in common, and that is their nasty ability to inflict a lifetime of torture and

relentless progression leading to a fatal ending. Other diseases in this category include ALS (amyotrophic lateral sclerosis or Lou Gehrig's disease), progressive bulbar palsy, multiple sclerosis, muscular atrophy and more. One thing is becoming increasingly clear. Contrary to the idea that medicine clings to, these diseases are not without cause and not without cure.

Famous toxic spills that have been carefully studied show us exactly how environmental chemicals damage the nervous system (Gunnarsson), with nutrient deficiencies a regular accompaniment. Clearly no neurologic disease should be without an environmental investigation with emphasis on a detoxification program and a corrective nutritional program.

Parkinson's Disease -- -- A Disease Example

Parkinson's disease, is a great example of a devastating neuro-degenerative disease that is on the rise. It starts innocently enough with hand tremor or shaking, but within a few years progresses to the unsteady staccato gait, stereotypic of a very old person whose lead feet seem to be glued to the ground. If that were not enough, the mask-like expressionless face and steady decline in brainpower make it a veritable nightmare. And medicine staunchly insists that there is no known cause and no effective long-term treatment. In fact they are experimenting with highly expensive implants of brain tissue and implanted brain electrodes. Reversal is touted as impossible, much less a cure. Famous folks like actor Michael J. Fox, former attorney general Janet Reno, and evangelist, Rev. Billy Graham have had the "best" care, but not the curative care.



If they haven't looked for the underlying chemical causes of Parkinson's disease (or any disease), you've been grossly cheated.

Their physicians persist in seeing every disease as a deficiency of some drug, rather than looking for the underlying true cause and correcting it. And when there is no effective prescription drug, a disease is considered incurable. But the last thing you want to give someone who is chemically overloaded with environmental toxins is one more chemical or drug. And that's exactly what studies show: folks who use Parkinson's disease drugs go downhill even faster than those who use no drugs (Perlmutter, Avorn). And after they have been on the standard Parkinson's drugs for a couple of years, the drugs suddenly lose effect and then nothing works. At that point the patient is up the creek without a paddle.

But Parkinson's disease is reversible, as neurologist Dr. David Perlmutter has shown at numerous physician courses, in his videos, Web site and his book, *Brainrecovery.com*. Glutathione is a safe detox nutrient that we all make in our bodies every

single day. We also run out of it or use it up in the work of silently detoxifying hundreds of chemicals that we are exposed to every day in our air, food and water. It is the major ingredient in Recancostat, in your detox cocktail. Folks with most diseases, including Parkinson's disease, have a deficiency of glutathione.

With one injection of harmless glutathione, a person with Parkinson's disease can be amazingly transformed within minutes. You can watch him metamorphose from someone who looks older than his age, handcuffed and hunched over by the disease with the classic staccato shuffling gait, so stereotypic of old age and Parkinson's. Within minutes of the injection someone who could barely propel himself down the hallway is now skipping down the hallway waving his arms above his head. It reverses symptoms quickly and lasts for one or two days in most people, before another is needed. Why isn't this unparalleled remarkably successful technique universally done, since it has no side effects and is inexpensive? Because it cannot be patented for big bucks.

Drug companies rule medical education and the practice of medicine as dozens of well-referenced books have documented (Epstein, Glennmullen, Breggin, Fagin, Haley, Moss, Moore, Cohen). I don't have to waste your time giving you the evidence of how misguided the field of medicine is when these folks have already done a fantastic job. Even the *Journal of the American Medical Association* has shown us that over 87% of physicians who make the rules or recipes for each disease are bought and paid for by the drug industry (Choudhry). No wonder practice guidelines make every disease looked like a deficiency of some drug!



Disabling Parkinson's disease can be magically transformed within minutes of an injection of the enormously safe detoxifier glutathione, one of the three ingredients of your detox cocktail. And it has no known side effects.

The **recipe for disease** is so easy that we can create any disease we want. If researchers need a few hundred rats with Parkinson's disease they merely dose them with a common organic pesticide (Betarbet). Numerous studies show that Parkinson's disease is also directly caused by a number of prescription medications as well as environmental toxins, but especially pesticides.

Even seemingly harmless pesticides like rotenone, which is considered safe enough to use for organic gardens, has been proven to duplicate every physical and biochemical abnormality of Parkinson's disease. It even produces the abnormal brain protein masses found in PD and kills the very brain cells (found on autopsy) that normally die in PD.

Pesticides – – A Chemical Example

Common everyday pesticides; we are told are harmless. Not true! They are able to cause every genetic abnormality and condition imaginable. And pesticides are especially toxic to the nervous system, our genetics, and the immune system (Repetto). Unfortunately the "safest" category, organophosphate pesticides and herbicides, are not only widely used in home and industry for pest control, but are also used as plasticizers, flame retardants, and lubricants. And high doses are not needed to cause damage. Chromosome damage in blood samples was found in patients exposed to ordinary application of home pesticides (Lieberman). And that's damage to genes that control every aspect of our destiny and includes every form of genetic damage known (chromatid and chromosome breaks, single and double minutes, dicentrics, rings, translocations, chromatid exchanges and endoreduplications).

Even though pesticides can trigger every known neurologic disease and symptom in adults, including those that baffle the best neurologists, they are only a minute part of the picture. More serious than brain rot in old age is the damage to the developing child's brain. It begins when we are still in the uterus, and continues into infancy (especially if breast-fed by mothers who are unknowingly poisoned from eating contaminated fish or processed foods, or in babies fed soy formula in plastic bottles). Even the damage rendered by the chemicals that you'll read about in Hormone Havoc is not limited to hormones. Pesticides have been proven to cause every form of learning disability and brain retardation known (Colborn). And there is no escape as toxic accumulation accelerates throughout adult life.

Pesticides: Paralyzers of the Immune System

You know what the cardiovascular system is with its heart and blood vessels, or the respiratory system with the sinuses, nose, and lungs. But most folks have a hazy concept of what the immune system involves because we cannot see it, we can't operate on it or cut it out or transplant it. But we also cannot live without it, for it is our *police force* that protects us from invading bugs, cancer cells and toxins. If it fails, we have infection. As it gets old and wears out, it can mistakenly start attacking our own body parts. The result is *auto-immune disease* like rheumatoid arthritis, diabetes, multiple sclerosis, or arteriosclerosis (Halliwell 1999). And when it is really damaged, we get *cancer*. All diseases have aspects of immune dysfunction. Furthermore, half of the immune system for the entire body lies inside the gut lining, which is why gut health is so important to recovery from anything.

Unfortunately the immune system is one of the body's most perniciously poisoned parts. But because the immune system is not tangible like the heart or lung, the damage goes unsuspected. Early it's called **allergies** or **asthma**, so antihistamines and inhalers are prescribed. Recurrent sore throats, sinus infections and colds can be caused by *allergies* that have been triggered by a poisoned or weakened immune system. Antibiotics lead to the leaky gut then auto-immune diseases, like arthritis or colitis. By the time some label has been applied to symptoms, the disease magically becomes a deficiency of some drug like the new tumor necrosis factor inhibitors at \$1000 a month that are currently prescribed (Enbrel) for rheumatoid arthritis and colitis. But does turning off part of the body's cancer defense system sound like a good thing to do?

Researchers from the Harvard School of Public Health have shown us how everyday pesticides can mimic every single immune system malady we can think of (Repetto). Even minute damage then leads to auto-immune diseases, leukemias and other forms of cancers, increased infections, strange kidney diseases, allergies, growth retardation, learning disability, headaches, fibromyalgia, irritable bowel, asthma, and more. No wonder childhood cancer has finally become the top cause of death by disease.

Because of their extremely dangerous persistence in the environment, many pesticides do not "go away" or deteriorate, but last a lifetime as DDT studies show (Turusov). Because of their strong ability to cause cancer, several pesticides have been banned after being used recklessly for decades. But that does not mean that we have stopped making them. In fact, we sell them to Third World countries who often use them to excess and I have read that peasant farmers, cannot even read the English labels, much less know enough chemistry to understand their dangers, and have a far less affluent diet and medical system. They in turn sell us their produce, making the **circle of poison** complete.

DDT came on the scene in 1943. By 1973 DDT had been used for 30 years. Yet the World Health Organization (WHO) report concluded that its benefits were far greater than its risks (Repetto). It took another 25 years before the damaging health effects were realized. By then it was too late. There are no longer any living organisms, animals in the wild or humans, free of DDT (Turusov). In fact if we stopped ingesting and inhaling it today, it would take over 20 years for the levels of DDT to dissipate from our bodies. And we would not live long enough for the levels of DDE (one of the

metabolites of DDT, and which is many fold more toxic than DDT) to disappear from our bodies (Turusov).

DDT is now recognized as contributing to pancreatic cancers, breast cancers, liver, lung and many more. As well DDT is a potent endocrine disruptor, capable of damaging any hormonal function and other critical messages, like neurotransmitters, in the body communication system (Turusov). No wonder thyroid disease, depression, impotence, and fatigue are so rampant.

Furthermore there are no oceans, seas or lakes free of measurable residues. We have contaminated the world and unfortunately all of the land and plants along with it. And it appears that the African nations have no intention of limiting their enormous use of DDT over millions of acres in their attempt to control malaria (Ross). These clouds have been shown to rain out over the United States.

DDT is one minute example. Pesticide residues are not only found in every ocean of the world, every sea, and even in the breast milk of Inuit Indian women near the Arctic Circle. Researchers have to drill down 100 feet or more before they can find clean ice, free from evidence of 20th-century chemicals. And researchers now know beyond a doubt that pesticides do their nastiest work at very *low levels* of exposure. You see, low exposures do not cause symptoms: as we adapt, they do not alert anyone to the problem. Hence years of exposure are innocently tolerated. That is until they finally result in disease. And when disease does materialize, it can be something as ill-defined as dwindling intellect and memory, chalked up to "normal" aging (Baldi), or as dramatic as a seemingly unrelated spontaneous abortion (Arbuckle).

Cadmium Curse

Medicine operates as though all patients with the same symptoms have the same cause and need the same treatment. But hopefully, you are too smart for that by now. For what does a woman with osteoporosis and back pain have in common with a man with hypertension and inability to have an erection? And what do these folks have in common with patients with emphysema, chronic fatigue, protein-losing kidney disease, mysterious liver disease, prostate cancer, and lung cancer? They could all have **cadmium poisoning** as the underlying cause of their symptoms.

You, like many people, may have never even have heard of cadmium, other than its use in batteries. But it is one of the many heavy metals that contaminate our air, food, and water. You cannot escape it. And once in the body, cadmium damages enzymes and mimics the chemistry of diseases.

How do we stockpile cadmium in our bodies? It is unavoidable. Just look at the many sources of cadmium toxicity:

- food is the most important source, as many commercial foods are grown on cadmium-rich sewage sludge which is sold as commercial fertilizer
- shellfish and bottom feeding fish concentrate industrial contamination from waterways
- much of the seafood for the Atlantic Coast comes from one of the most polluted waters, the Chesapeake Bay, one of the world's largest naval shipyards containing high amounts of cadmium and PCBs from barnacle-proofing bottom paints

- the greatest source of airborne contamination is the burning of fossil fuels like oil, auto and industrial exhaust, municipal incinerations of plastics and batteries, coal furnaces for electricity, etc.
- even pristine northern Great Lakes inaccessible except by helicopter, have heavy levels of PCBs, cadmium and other disease-causing chemicals, as does the breast milk of isolated Eskimos in northern Canada
- drinking water is progressively more contaminated while softened water (from your water softener) and acidic water (from chlorine and other chemicals) hold even more cadmium

And many occupations and exposures magnify the possibility of cadmium toxicity: auto mechanics, glass makers, jewelers, lithographers, graders, sculptors, textile printers, painters and those who work with solder, welding, plating, ceramics and pottery (or eating and drinking from unglazed pottery), electric instruments, electroplating, mining and refining, paints, pesticides, pharmaceuticals, pigments, plastics, dental amalgams, and those wearing porcelain dental crowns, and more. In essence, you cannot find a person without excessive cadmium exposure (U.S. Department of Health & Human Services, 1990).

Consider these facts about cadmium:

- The **average daily cadmium intake is 30 mcg**, but the body has no way of getting rid of it. Imagine that we have so much exposure that we actually have an average daily intake for each human being! We don't even have an RDA for some essential nutrients, without which we would die! But that number is just an average, for lots of people have

more. For example, smoking one tiny cigarette provides 2 mcg of cadmium, with a pack more than doubling the average daily body burden. Two packs a day is a veritable death wish.

- The presence of cadmium and other heavy metals stimulate the body's formation of metallothionein, a metal-binding protein, which then concentrates cadmium 3000-fold in the body.
- The half-life of cadmium in the body (the time it takes the body to get rid of half of its cadmium) is 10-30 years.
- It takes 20-50 years to stockpile enough to cause hypertension, osteoporosis, painful arthritis or to damage an organ or the mechanism for cholesterol control, or produce lung or prostate cancer, for example.



There are no more pristine places. Modern pollution has reached everywhere man has explored and further.

Let's take a closer glimpse at some of the many diseases that cadmium can cause as it steadily accumulates in the body. As it stockpiles in kidneys it can cause hypertension, or make

kidneys lose protein and create self-damaging auto-antibodies, that then lead to recurrent infections anywhere in the body. Or it can trigger arterial disease with ringing in the ears, or interfere with intestinal absorption of calcium leading to osteoporosis, or cause mysterious anemia. Or it can cause yellowing of the teeth at the gum line, loss of sense of smell, or undiagnosable ills that baffle medicine. But we are told ringing of the ears has no known cause nor cure!

As a carcinogen, cadmium can trigger, for example, cancer of the lung, prostate, testicles and more. And once you have any cancer, cadmium acts like fertilizer for cancers, making them grow more rapidly and to spread or metastasize. A body burden of cadmium can make recovery impossible. And bear in mind we're talking about *one* example from scores of environmental heavy metals and thousands of common everyday chemicals that we all insidiously tank up on.

Clearly you are beginning to appreciate how environmental pollutants stockpile over a lifetime in the body to eventually masquerade as the common diseases of aging. Just look at some of the common symptoms that cadmium causes:

- hypertension
- angina
- high cholesterol
- benign prostatic hypertrophy or prostatitis
- cancer
- osteoporosis
- bizarre neurologic syndromes
- hormone deficiencies, glandular failures like hypothyroidism
- depression

- puzzling pain syndromes
- migraines
- ringing in the ears
- arthritis
- symptoms that baffle specialists and super-specialists

Cadmium Causes Cancer of the Prostate

Did ever wonder how they get a bunch of rats with cancer of the prostate so they can study the effects of drugs? They can dose them with cadmium (Waalkes). Why use cadmium? Because it has a remarkable ability to zero in on the testicles and prostate as target organs. And many studies have been done on workers involved in the cadmium industry (cadmium batteries, welders, fabricated metal products, etc.) showing that they have up to four times the increased incidence of prostate cancer compared with the average guy. There seems to be roughly a twenty-year latency or "incubation" period before it manifests itself.

In over one in every six men over 60, prostate damage first appears as "benign prostatic hypertrophy" or BPH. But it is anything but benign, for it is the transition step to cancer. Clearly the amount of smoking one does, plus the amount of cadmium he gets from other sources, especially foods and auto/industrial exhaust have a big bearing on who gets there first. Luckily, they have proven that having a good level of zinc in your body actually antagonizes and displaces cadmium, kicking it out of prostate storage and out of the genetic DNA. But if you don't know your RBC zinc is low, you keep tanking up on cadmium.



Each person has his own individual target organ. For example, cadmium may cause painful arthritis in one, high blood pressure in another, and prostate cancer in someone else. But what specialists look for cadmium toxicity and then know how to boost the detoxification pathways and get rid of it?

Likewise a healthy level of selenium negates the effects of cadmium in being able to induce cancers of the prostate. Since cadmium has a half-life of about 25 years in the body, this means we never really get rid of much, since we are continually eating foods and breathing air that are unavoidably contaminated with it.

It's interesting that one of the effects of cadmium is to raise the 5 alpha-reductase enzyme that then raises the testosterone level, which then acts like fertilizer for the cancer. Proscar and other medicines for BPH merely lower that enzyme level, but they don't do anything to get rid of the cadmium. And without getting rid of the cadmium, there's no hope of getting rid of the BPH, which can eventually turn into prostate

cancer. Surprise, surprise. And that's why the urologist keeps checking each year for eventual cancer. As well, elevated levels of cadmium that have chosen the prostate and testicles as target organs can lead not only to cancers, but to more subtle signs of an unwell body, like infertility and impotence (the Viagra epidemic).

As you'll see in the next chapter, besides doing your mercury detox cocktail, there is one more way of getting cadmium out of the body. In fact it is even more important and for most people they need to do both. The sad thing is that much of this information about cadmium as one of many causes of prostate cancer has been known for over 35 years and yet we never hear about it from family doctors, urologists or oncologists, much less learn that there's anything you can do about it.

I think you now appreciate, there is **no such thing as "diseases of aging"**. There is no such thing as a mysterious disease with no known cause. You are much too smart to ever fall for those phrases again. They are *diseases of accumulation*. Once you have crossed the Rubicon, there is no turning back. *This knowledge is yours forever to use as you decide.* **Disease merely results from undiagnosed nutrient deficiencies and bioaccumulation of environmental chemicals to the point of symptom production.**

The Causes and Cures of Silent Accelerated Aging

The thyroid: it's amazing how a tiny walnut sized gland at the base of the neck can make or break the energy level of the entire body. As people age, they often feel more tired, put on weight, lose hair and teeth, get constipated, have high

cholesterol, get depressed, and lose sex drive. But the most rotten part about this scenario is that they are told this is all a "normal" part of aging. Excuse me, but normal aging is to die in your sleep in your 90s with no symptoms and no medications. Often symptoms that are blamed on aging are classic symptoms of a dwindling thyroid or hypothyroidism.

But what makes a thyroid that has been functioning all of your life suddenly peter out? To find the causes, we use the same formula that we used in *Depression Cured At Last!* Look for the (1) environmental, (2) nutritional, then (3) metabolic causes.

For example, in the **environmental category** we look at food allergies, chemicals toxicities and mold sensitivities. Foods like soy can be goitrogens, causing a swollen or large malfunctioning thyroid called a goiter. The chemical-cause category is by far the largest and can range from medications like Prozac with three fluoride molecules that can boot out the thyroid's iodine, to any of the heavy metals and chemicals commonly found in most of our foods like cadmium, mercury, PCBs, dioxins or the phthalates (plasticizers). Molds make mycotoxins that can damage thyroid function and are even more potent triggers of cancer.

In the **nutritional category** selenium, zinc, iodine and other minerals are crucial for making thyroid hormone. As well, you must have well functioning cell membranes, because they hold the thyroid hormone receptors. Normal function of the thyroid receptors in turn depends upon the correct ratios of fatty acids and having no trans fatty acids. Since as much as **80% of nutrients can be lost from processed** foods and they are the major source of trans fatty acids, any deficiency is

possible. As well, the work of detoxifying our daily chemical load uses up or depletes nutrients.

In terms of the **metabolic category** of causes, certainly a gut full of Candida from previous antibiotics, or Yersinia bacteria which is a common contaminant of foods, or months of use of common pain medicines (like Motrin, ibuprofen, Celebrex, Vioxx, and Aleve) can lead to the leaky gut. This in turn triggers the body to make antibodies that attack and destroy its own thyroid gland. But thyroiditis cannot be found unless someone thinks of it and the thyroid auto-antibodies are looked for via specific blood tests.

The Never-Ending Source of Environmental Pollutants

Meanwhile more chemicals are released into our air, food, and water that continually damage the thyroid. For example, the Citizens' Environmental Coalition of Buffalo NY (716-885-6848) has researched how one corporation in beautiful upstate New York is one of the largest polluters of cancer-causing chemicals in the United States and is the number one manufacturing polluter in New York State. They have documented the numerous toxicants as well as fines, investigations and violations that polluters have been guilty of over the last decade. The documentation of repeated violations and fines substantiates the powerlessness of government over big industry. For the totality of their fines is equivalent to making someone who earns \$40,000 a year pay a \$20 parking ticket.

This is in spite of the fact that the New York State Department of Health has published a March 1995 study showing that, for example, women living near this manufacturing facility had

an 80% greater risk for developing pancreatic cancer. This type of cancer has a medium survival of 4-6 months regardless of what is done. And if they lived near this facility for 20 years, they had a 96% increased risk of pancreatic cancer. Over 21 schools are within three miles of the famous facility and concerned parents are now investigating why in 1997 alone there were 33 cases of childhood brain and spinal cord cancers reported within a five mile radius of the plant.

Numerous pollutants that are continually spewed into the air and water eventually end up in our lungs and the soil, to be transferred to our foods. No wonder EPA studies show that 100% of humans have stored levels of dioxins, PCBs, phthalates or plasticizers and many other cancer-causing, gland-damaging, immune-paralyzing and disease-producing chemicals. For remember, this is only one tiny investigation of two types of cancers and a couple of chemicals from only one company, in one county, in one state, in one country. And the 2002 *Wall Street Journal* tells us over "a third of the nation's polluters operate without permits and monitoring systems that Congress had required by 1997" (Fialka).

The impact of these chemicals extends to all aspects of life. For example, what parent with a child who has less than perfect intelligence or with hyperactivity or who has learning disability thinks of chemicals as part or all of the cause? Even if the child is born with thyroid disease or develops it later, who thinks of chemicals as the cause? Why everyone knows it's a clear deficiency of thyroid; case closed. No thought is given to detoxifying and restoring the thyroid to normal function. And yet studies show that PCBs and dioxins damage children's brain functions as well as thyroids (Brucker). On the optimistic side however, ascorbic acid or

vitamin C can protect against thyroid damage caused by environmental heavy metals (Gupta). This is just one more reason why the daily detox cocktail is so important.



A diagnosis is merely an artificial label that has been tagged onto a bunch of symptoms; it doesn't much matter if the label is right. He might as well flip a coin, since 99% of diseases are treated with medications that merely turn off (rather than repair) malfunctioning pathways. A medication gives you an excuse for not looking for the underlying correctable cause and eventually creates new diseases. Meanwhile the underlying cause silently continues to erode your health, as chemical medications now add more of a burden to the detoxification system.

The Perfect Crime

In the government's leading environmental journal, over 300 children under 10 years of age were examined for thyroid function. These ordinary kids had eight different types of PCBs in their bodies, which predicted their thyroid status nicely. In other words, the more PCBs in their bodies, the more likely the child had thyroid abnormalities as well, which

then lead to poor brain development and lowered intelligence.

In other studies cadmium, also ubiquitous in our air, food, and water, lowered the T3 (the active thyroid hormone), but did not raise the TSH which is what the brain's master gland uses to turn on more thyroid production in the body (Pavia). The TSH (thyroid stimulating hormone) is the screening blood test that many physicians use to determine whether you have any thyroid abnormality. This is but one example of how a ubiquitous environmental heavy metal can mimic the **perfect medical crime**. It causes us to make less thyroid hormone, while the diagnostic test remains normal!

What a nightmare. We can have acceleration of all the symptoms of aging from poor memory, depression, weight gain, exhaustion and loss of sex drive to loss of interest in everything, loss of hair and teeth, constipation and high cholesterol. Meanwhile the stealth chemical continues to paralyze the ability of the body to synthesize needed hormone. If that were not enough of a trick, cadmium leaves the main test that most physicians use to screen for thyroid adequacy looking perfectly normal. What is the average physician supposed to think when faced with a complaining patient and a normal lab test? Clearly he is either a hypochondriac, neurotic, or having difficulty adjusting to getting older.

Soy foods can be toxic to the thyroid. Some components of soy foods inhibit thyroid peroxidase reactions that are necessary for making thyroid hormone. The isoflavones genistein and daidzein from soybeans will do this, another reason I am not a soy fan. (In *Total Wellness* issues from 1999 to present, you

will learn that 60-80% of soy is genetically engineered and loaded with residues from the pesticide Roundup (glyphosate). Furthermore most soybean is in the form of soybean oil or vegetable oil which has been hydrogenated to produce **trans fatty acids**. These are the **number one public health enemy**, since they damage cell membranes and hormone receptors leading to nearly all diseases including heart disease and cancer.)

Since nutrient deficiencies like **selenium** and **zinc** damage thyroid function, for some folks, merely correcting selenium deficiencies can normalize their thyroid function (Olivieri). Nutrients get progressively lower in folks because of their depletion through the work of detoxifying our everyday chemicals and the work of healing. As well, soils are progressively more depleted of these minerals with repeated growing of crops. Also good minerals are often displaced from the soil by heavy metals (like cadmium and aluminum) in acid rain from factory smokestacks.

Since environmental chemicals have been proven to be able to make thyroid tests look normal and simultaneously damage the function of the thyroid, the only real test is an actual therapeutic trial. If you have the symptoms of hypothyroidism, I recommend that your doctor prescribe for you whole, natural, desiccated, dye free, wax free, corn free, preservative free thyroid. **Bio-Throid** can be obtained with your doctor's prescription (from Biotech, 1-800-345-1199). Any doctor or pharmacy will get this for you once you have a prescription. If your pharmacy does not carry this, call Wellness Pharmacy (1-800-227-2627).



Chronic fatigue could be caused by a poisoned thyroid gland. The perfect crime is committed by environmental toxins that steal energy by poisoning normal gland function, but leave no clues (the blood tests that doctors rely on for diagnosis can look totally normal).

For a therapeutic trial, I suggest the lowest strength, 1/8 of a grain tablets, so that you can slowly work up anywhere from one to eight tablets a day, which would only give you one grain. Remember some people who are hypothyroid need as much as three or four grains a day. Obviously once you find your total daily dose, then your physician can write a composite prescription so that you only need one pill per day. Many folks do better with their total daily dose split in half, taken twice a day.

Also remember that once you learn how to get unwanted chemicals out of your gland, its function may improve so much that you no longer need exogenous thyroid. Try to avoid Synthroid, since in spite of forty years' use and the fact that it is the #3 most commonly written prescription in the

United States, it has never been FDA approved (the power of the pharmaceutical industry is awesome). For years this company badmouthed companies that made natural thyroid, saying that they did not produce consistent levels and the products were inferior. Finally studies in the *New England Journal of Medicine* just a few years ago proved that the body prefers natural thyroid (Benevicius). It does not prefer something made in a test tube, that is synthetic. Furthermore Synthroid forces the body to use up precious enzymes to convert this synthetic hormone (T4) to the real active hormone (T3) that the body uses.

The bottom line is to think of your thyroid and what may be poisoning it, especially if you have any of the symptoms of accelerated aging mentioned. For if you don't, perhaps no one else will.

We Are a Polluted People

Let's take a quick trip through a few other chemicals that we are all exposed to every day. For they have endless potential for causing a myriad of diseases. Clearly they end up in the body with no way out. Our chemistry was not designed to metabolize some of these dangerously carcinogenic man-made chemicals that definitively have no place in body function.

Vinyl chloride is a great example of a ubiquitous man-made chemical, its synonyms including chloroethane, monochloroethylene, VC, and VCM. It off-gases from electric wires (inside appliances, TVs, computers) and cables, flooring, home furnishing, toys, food and beverage packaging, apparel, upholstery, aerosol propellants, PVC for water pipes,

bookcovers, eating utensils, office supplies, and much more. There isn't a part of our lives that is not touched by plastics. Vinyl chloride is even responsible for that **new car smell** which, believe it or not, car dealers actually spray in older cars to make them have that "new car smell". It has a long track record for causing cancer, birth defects, genetic damage resulting in auto-immune diseases, and much more.



If you examine the contents of any man, he contains evidence of stockpiled modern pollutants. You can easily tell what century he is from.

Styrene (vinyl benzene), is likewise a synthetic man-made carcinogen, being found in just about any place you find other plasticizers like phthalates or vinyl chloride. It metabolizes to **benzene** (a known cause of leukemia), mandelic acid, hippuric acid, a glucuronide, a sulfur compound, hydroxy mercapturic acid, vinyl phenol, phenyl ethanol, and phenylglyoxylic acid. Depending upon the availability of your detox nutrients, its metabolism can get stranded

anywhere along the line, producing varying intermediate metabolites, with potentially disastrous results.

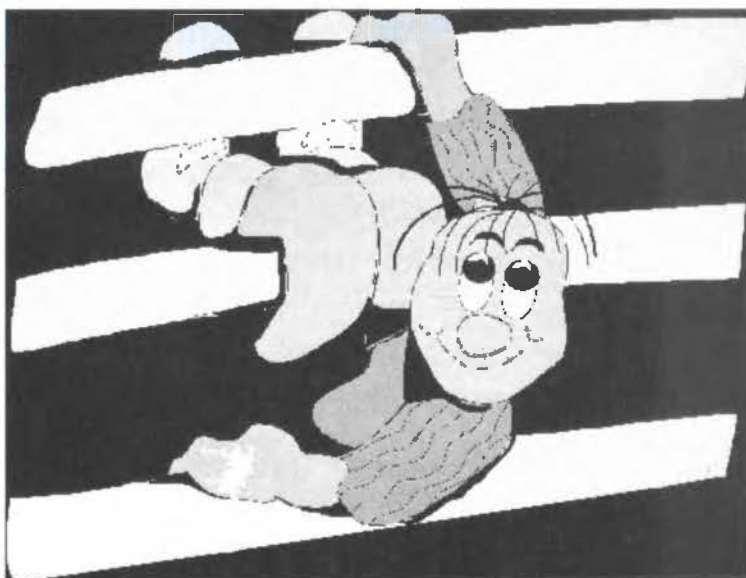
One dangerous metabolite is an epoxide, which is highly carcinogenic and can bind to the liver causing serious hepatitis (Liebman). Even if this one component of plastics does not go on to cause cancer or damage liver genes, it weakens you and sets the stage, making you more vulnerable for developing symptoms from the combined effects of all the other toxins in your daily chemical soup. The advertising slogan decades ago for a major chemical manufacturer was "*Better* through chemistry". You can begin to appreciate how folks who learned how their health and lives were destroyed, have modified that slogan to "**Bitter through chemistry.**"

Arsenic toxicity is something you might think you could never have contact with, but it is common in pesticides, herbicides, fungicides, wood preservatives, paints, tobacco, seafood, burned fossil fuels (like coal-powered electricity generating plants), manufacturing, microwaves, and lasers. You can get arsenic toxicity from smoking cigarettes or hanging out on your pressure-treated wood deck. Researchers were stunned to find that a child steadily accumulates arsenic from playing on a pressure treated wood swing set or playing in the dirt around pressure-treated telephone poles, decks and walkways.

While the average daily intake of arsenic by U.S. adults is 50 mcg (range 8-104 mcg), 80% of the dietary arsenic intake comes from meat, fish, and poultry (because of the pesticides, herbicides and fungicides used in their feed and production). It can cause every heart, blood vessel, and neurologic

symptom you can think of, as well as stop the bone marrow from making blood cells (aplastic anemia) or trigger cancer.

PCBs are not one chemical, but a family of over 200 chemicals, most of whose members contain benzene rings (a known cause of leukemia) and chlorine atoms (known to be associated with higher rates of cancers). If that were not enough, PCBs are usually contaminated with even more dangerous furans and dioxins (one of which is Agent Orange). PCBs outgas from plastics, pesticides, caulking, paints, adhesives, flame retardants, carbonless paper, inks, hydraulic and lubricating fluids, transformers and capacitors, heat exchange fluids, waste oil processing, welding equipment, x-ray machines, and fluorescent light ballasts.



Playing on a playground with a wooden swing set, lunching on a wooden deck, or even relaxing on treated wood lawn furniture can give elevated levels of arsenic, leading to mysterious anemia or cancer.

PCBs are so common throughout the world that they have been found in pristine areas. In lakes inaccessible by four-wheel-drive, researchers with helicopters have found samples of these waters contain PCBs. They're especially toxic after fires, as this is a major way of creating new and even nastier chemical mixtures. Every time a house, office building, airplane or manufacturing site burns, huge amounts of highly carcinogenic PCBs are released into the air. Remember the World Trade Center fires did not stop burning until after the 100th day. This alone added an unprecedented amount of previously banned agents to all environments worldwide.

Taken up into clouds, PCBs are carried for hundreds and thousands of miles, eventually raining out. From here they are incorporated into soil and taken up by plants. That is why, as with most of these **xenobiotics or foreign environmental chemicals**, food is a major source. PCBs are especially plentiful in meats since they bioaccumulate or concentrate their chemicals from lower sources, plants. Worst of all, they are *persistent in the environment*, in other words they never go away. Although they are some of the most potent causes of cancer and other chronic diseases of aging, early warning symptoms can be as simple as chlor-acne or rosacea (adult acne), which of course is treated as a deficiency of gels, lotions, and antibiotics.

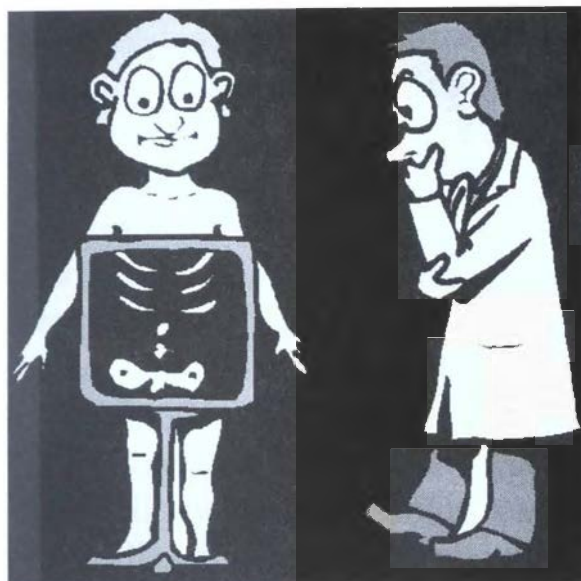
Cyanide toxicity, although it may sound remote, is just as easy to come by. Some foods like cassava, apple and pear seeds are natural sources of cyanide. But the largest source is auto and industrial exhaust, municipal incinerators, refineries, cigarette smoke, drinking water, home, office and auto fabrics and textiles, foam stuffing, and plastics in the home; and they are all especially toxic if burned.

For example, each pack of cigarettes releases 250 to 10,000 mcg, with symptoms varying from demyelinating diseases like multiple sclerosis to Parkinson's disease, thyroid gland disease, cardiac or respiratory symptoms and much more (U.S.D.H.H.S.) Rhodanese is one enzyme that is crucial for metabolizing cyanide and since it requires a molecule of molybdenum to function, you can appreciate how pivotal these trace minerals are in determining how vulnerable you are to everyday attack. Aldehyde oxidase is an extremely pivotal enzyme to detoxify our environmental toxins via phase I. It, too, is dependent upon a molecule of **molybdenum** for function. Unfortunately, molybdenum deficiency is one of the most common ones we see in the office every day on RBC mineral tests.

Toluene toxicity is one of the most common toxins. It is a chemical that ubiquitously out-gases from nail polish, cosmetics, inks, cements, shoe polishes, cleansers, polishes, leather apparel and furnishings, plastics, solvents, newly dry cleaned clothes, new construction, recently renovated offices, carpeting, printing operations, glues, paints, industry, heavy traffic, adhesives, purses, valises and attaches, boots, coats, and sanitizing agents. Cigarette smokers absorb 80-100 mcg per cigarette (EPA 1983).

And who knows how much women absorb who wear fake nails! Not only does toluene bioaccumulate, but metabolizes to more lethal forms and has an *addictive potential* equal to that of alcohol and opiates. So instead of finding it disagreeable, *people actually seek it out*. In fact, there is a whole generation of children and teens who are into sniffing brain-damaging nail and shoe polishes, glues, pesticide sprays, home cleansers and

degreasers. It takes a few months before they permanently damage brain, liver and more.



If you have a mysterious disease that defies finding a label or treatment, it's only because no one has looked for the environmental and nutritional causes.

Toluene can cause any symptom imaginable from, soft spoon-shaped nails, abnormal menstrual periods, liver damage, abnormal blood counts, heart attack, depression, poor memory, brain fog, numbness and tingling (paresthesias) or poor coordination, to inability to properly metabolize cholesterol or undiagnosable neuropathies. And because it is merely a **methyl benzene**, it can be a carcinogen, triggering cancer (U.S. EPA, 1983). But what physician looks for toxicity when faced with these signs and symptoms?

Jet Fuel toxicity is common in pilots and airline workers, but everyone is vulnerable; one jet taking off is equivalent to 600

idling cars. Jet fuel is a complex toxic mixture, combined with other toxic solvents, carbon monoxide, and more and is **absorbed by all routes; respiratory, gut and skin**. Due to the massive deterioration and leaking of underground storage tanks, it is an increasingly common pollutant in drinking water within miles of these buried toxic tanks. Jet fuel **hexanes** are a cause of peripheral neuropathy, stocking-glove paresthesias (numbness, pain and tingling in the lower half of an arm or leg), restless legs, muscle cramps, ALS, polyneuropathies (pain and loss of sensation), and memory loss. But in the modern world these symptoms are treated with prescribed chemicals: anxiety is treated as a Xanax deficiency, memory loss as a Tacrine deficiency, and depression is treated as a Prozac, Paxil, Effexor, or Zoloft deficiency, further depleting the detoxification reserves. **For every drug uses up and depletes precious detox nutrients.** Therefore, a whole foods diet and supplements are a must.

Dioxins are another family of chemicals that are some of the most potent cancer-causing chemicals known to man. Agent Orange that was used to defoliate passes through the jungle in Vietnam is a member of this family. It is such a potent cause of cancer that once veterans had returned from home, any who had children with cancer were readily compensated (that's really an oxymoron, since there is no actual compensation for loss of a child to cancer!). Many dioxins in our air, food, and water come from the smokestacks of industry and are mere by-products of manufacturing. No one intended to make them, but they result when we make plastics, pesticides, and other modern poisons. When they were first made decades ago, no one knew that they also, like PCBs, would remain a permanent part of our environment. In other words, once they are released into the environment (soil

and water) they do not go away; they steadily increase. It only gets worse.

That is why government studies show there are no people free of dioxins. If you are interested in learning a great deal more about this ubiquitous carcinogen and what your community can do about it, read *Dying From Dioxins* (by Louise Marie Gibbs, 1995, Citizens Clearinghouse for Hazardous Waste, South End Press, 116 St. Botolph Street, Boston MA 02115). For dioxins are continually released from municipal incinerators and now studies show that even tiny amounts damage brains and especially motivation (Washam). Are we to have a nation of low intellect, zombie-like people with no motivation? The potential is present, since 100% of human fat biopsies contain dioxins and we are continually adding more to the environment.



Brain fog, mood swings, depression, high cholesterol, poor memory, paresthesias, cancer and even addiction to the chemical can result from inhalation and absorption of toluene from fingernail polish.

Phthalates you are already familiar with. Bear in mind that although I've given only a few examples of the multitude of chemicals we are exposed to daily, phthalates lead the pack in terms of quantity (Vastag). When the government's CDC looked at 27 toxins in U.S. residents, plastics (phthalates) led the pack. For example, the mean cadmium level was 0.3 ug/L, while the mean organophosphate pesticide (diethylphosphate) level was 2.55 ug/L. But the mean mono-ethyl phthalate in humans was 176 ug/L (CDC). In fact Dr. Michael McCally, M.D., Ph.D., professor of community and preventive medicine at Mount Sinai School of Medicine, New York City, called for an outright ban on phthalates (Vastag). "We know enough already. There's no reason in the world to put chemicals into human bodies that we know produce harmful effects in humans".

We are a polluted people:

- 100% of human fat biopsies in EPA studies contained undetoxified **styrene** residues (Styrofoam, styrene, foam, plastic coffee cups, meat trays, plastic wrap for meats, fruits, vegetables, heated plastic wires in walls, appliances, and computer housing, etc.)
- 100% of human fat biopsies in EPA studies contained **dioxins** (one of the most potent causes of cancer known, from bleached paper products, diapers, milk cartons, herbicides in foods).
- 100% of human fat biopsies in EPA studies contained **xylene** (gasoline, paints, glues), and
- 100% of human fat biopsies in the EPA studies showed another carcinogen, **1,4-dichlorobenzene** (public restroom and home deodorizers, moth balls, sanitizers in textiles for furnishings, bedding, clothes, and many other products).

- And the combination of ubiquitous environmental chemicals can mimic any symptoms (Sullivan).

Gut Level Causes of Disease

Although we clearly have a toxic external environment, as much environmental toxicity comes from our **internal environment**. The gut is a tremendous source of toxicity and I described that at length in *No More Heartburn* and *Pain Free in 6 Weeks*. For example, some folks harbor abnormal bacteria (from eating out) or incubate yeasts like *Candida albicans* in their intestines (from antibiotics and sweets). These bugs lead to inflammation of the gut lining. But the gut lining houses over half the immune system and half the detoxification system. Therefore if the gut isn't perfectly healthy, you are at a standstill in terms of healing any other condition, regardless of how remotely unconnected to the gut it may appear.

For example, serotonin is the brain neurotransmitter or happy hormone that many antidepressant medications like Prozac, Effexor, Vioxx, Celebra, Zoloft and others work on. But the majority of serotonin in the body is not made in the brain. **95% of serotonin is made in the gut.** Therefore if the gut isn't healthy, the person who is depressed does not have a chance of getting totally well and staying that way. He must heal the gut first.

For starters, you need a test to determine which of these abnormal bugs might be lurking in your gut with the **Digestive and Microbial Stool Panel** (MetaMetrix 1-800-221-4640) you learned about in the preceding chapter. This may be a vital move that starts you down the path of real healing.

Toxic Teeth: From Amalgam to Brain

Another major source of internal toxicity for unsuspecting people comes from the teeth. Our "silver" fillings are 50% mercury. For decades the American Dental Association has argued (and still does) that this mercury is extremely safe and stays put once it is in the teeth. This is simply not true and reflects ignorance of all the scientific literature.

Volumes of studies show that with every bite, minuscule amounts of mercury from our fillings are released into the bloodstream. With time, folks accumulate enough mercury to seriously damage body parts (Pelletier, Solonen, Vimy, Sood, Rogers). Auto-immune disease, heart disease, high cholesterol and triglycerides, chemical sensitivity, allergies, antibiotic-resistant infections, depression, schizophrenia, multiple sclerosis, leukemia and just about any symptom you can think of, have improved once sufficient accumulated mercury was removed from the teeth and body.

Dentists unknowledgeable about the chemistry will argue that mercury in fillings stays put in the teeth. But rocky-hard silver-colored elemental, inorganic metallic mercury in the mouth can transform into methylmercury. In contrast to the hard form in fillings, the methylmercury form readily passes through all physiologic barriers or membranes of the body. That means that unlike the hard metal that is in our dental fillings, once mercury has been chemically changed to methylmercury in our bodies, it can permeate the bloodstream and go anywhere in the body. And the **principal target organ for methylmercury is the brain.**



Many a problem, from multiple sclerosis, angina, or migraines to a mysteriously painful shoulder or knee problems, has been solved by fixing a toxic (asymptomatic) tooth that was in the acupuncture meridian of that organ.

What changes hard mercury in fillings into a dangerous chemical that accumulates in our brain and other tissues? The mechanism for formation of methylmercury uses the chemical reaction between salty foods, acid foods (like meats and sweets) and the influence of microbes (bacteria) in the mouth, whose sulphhydryl enzymes methylate mercury to an organic compound that can now go anywhere in the body (Sellars).

And mercury doesn't even have to be converted from the metallic form to the harmful body form to be dangerous to the brain. It can actually be carried directly to the brain along nerve roots from the teeth to the brain. Mercury and other heavy metals have been shown to have **retrograde axonal transport**, and to be taken up preferentially in the brain with more than triple concentration in the pituitary gland

(Stortebecker). Since the pituitary gland is the "master gland", its damage filters down to the adrenal, thyroid, ovaries, testicles and more.

As well as damaging nerve function, mercury blocks energy flow in acupuncture meridians. A mercury filled tooth or silently deteriorating root canal can give mysterious symptoms in other structures along that meridian pathway. For example, recalcitrant shoulder pain, tennis elbow, "trick knee", migraine or angina can be related to a specific tooth, and clear up once that tooth is fixed. *Pain-Free In 6 Weeks* contains the chart that shows which areas of the body are affected by each individual tooth.

Are Pro-Mercury Dentists Getting Dumber?

The American Dental Association along with the University of Washington in Seattle combined the talents of three of its departments for a study on the effects of low levels of mercury on dentists. Researchers from the Department of Environmental Health, along with the School of Dentistry and the Department of Chemistry studied dentists at an ADA convention (Echeverria). They showed that **exposure to *low levels of mercury* in these dentists was significantly associated with brain damage.**

The dentists with low but significant levels of mercury in the urine had mood disturbances, memory deficits, fatigue, confusion, anxiety and delay in simple reaction time, as compared with dentists with lower mercury levels in the urine. The important part of the study was that the urine mercury levels that symptomatic dentists had were still considered "low-level". In other words, *the "safe" cut off for*

mercury levels in the body is well above the level that causes serious brain function loss. So the person can be developing symptoms of mercury toxicity while his doctor tells him his level is not a problem. This study should start to get more dentists interested in the mercury problem. It sure would be interesting to know what percentage of dentists who staunchly defend mercury already have higher levels of mercury and resultant brain damage.

For your safety, make sure you have a biological dentist. Find the one in your area who does not think you are nuts to want your mercury removed to reduce your total load. And if nothing else, a biological dentist should have better manual dexterity (who wants a dentist with shaking hands from mercury neuropathy?), and should be smarter and have a sweeter disposition than one whose brain is tanked up on mercury.

Mercury, the Great Medical Mimic

Mercury is known to denervate nerve fibers, similar to the pathology of multiple sclerosis. In other words it makes it so the nerves do not work. Or mercury can leak into the blood-brain barrier and reduce nerve conduction velocity and visual evoked responses, diagnostic tests used for multiple sclerosis. Mercury can inhibit the action (binding) of happy hormones, like serotonin, at the synapse (nerve to nerve connection) leading to depression. Mercury can cause hearing loss (another "dead-end" accompaniment of "normal aging"), or decrease norepinephrine and dopamine activity at synapses, damaging our molecules of emotion. This can make a person lack zip, enthusiasm, joy, and creativity and make him anxious, insomniac, and terribly tense.

Mercury can create peripheral neuropathy, auto-immunity, interfere with synapse transmission, decrease infection control so the unsuspecting victim gets recurrent sinusitis, prostate or gum infections, as examples (Siblerud). Or an overgrowth of the yeast, *Candida*, can occur in the intestines after antibiotics or a diet high in sweets. This yeast (explained in much more detail in *No More Heartburn*), can be particularly difficult to get rid of. If this is the case, look for hidden mercury toxicity, as it is often the cause. Sometimes you just cannot clear *Candida* symptoms until you get rid of the mercury.

Mercury is also a major undiagnosed cause of chronic fatigue and fibromyalgia. Whenever we see someone resistant to all treatments, there is often mercury toxicity at the root of it. In essence, mercury toxicity can create any baffling neurologic disease as well as impair cure for any disease of other body systems. One of the most common symptoms we see from mercury toxicity is that of terrific **body burning and baffling pain that migrates**. But what neurologist looks for mercury toxicity? And you certainly will never find it by doing an MRI. Instead, folks get fictitious diagnoses like erythromelalgia, fibromyalgia, idiopathic neuropathy, neurosis, idiopathic pain syndrome, or hypochondriasis.

If mercury were not enough of a toxic cause for common symptoms, the glues or adhesives used to cement fillings and crowns in our teeth can produce a wide range of symptoms from triggering a heart attack or sudden death, to malignant tumors and much more. But it should come as no surprise because these are acrylates whose ingredients are cousins of plastics, formaldehyde, trichloroethylene, toluene and many other nasty environmental chemicals known for these very same effects (Phillips, Gresham, Kepes, Oppenheimer,

Andrews). But since there is not an abundance of suitable substitutes we need to be able to more effectively detoxify these.



You think you need a psychiatrist or that your depression is a Prozac deficiency? Don't start disease-potentiating drugs until you've checked your mercury level with the proper test. The mercury detox cocktail could cure your depression within weeks.

Meanwhile, we have a nation of people poisoned by mercury amalgams. Mercury silently sits in brain enzymes and damages natural function. As well, many other environmental chemicals also damage a variety of enzymes that can lead to, for example, an elevated cholesterol. But when folks have a high cholesterol, they cut cholesterol out of their diets and even take medications (Mevacor, Pravachol, Lipitor, Zocor, Lescol, etc.), to further lower cholesterol. Now they have a deficiency of cholesterol, which is absolutely crucial for healing and regeneration, especially in the brain.

As well, cholesterol is crucial for every cell membrane hormone receptor, brain neurotransmitter (hormones of happy mood) and for making our adrenal (stress) hormones and our sex (estrogen, progesterone, testosterone) hormones. No wonder Alzheimer's, the Viagra epidemic, and other neuro-degenerative diseases are on a dramatic rise.

If that were not enough, these cholesterol-lowering drugs (called statins or HMG COA reductase inhibitors, see the brand names given above) turn off the body's synthesis of coenzyme Q10, a nutrient needed for healing brain tissue and keeping us safe from high blood pressure, chronic fatigue, gingivitis, depression, and congestive heart failure. What a bargain! And all because the treating physician used a \$100 a month drug instead of looking for a correctable cause.

The bottom line is regardless of whatever label or condition you have, a drug is not the answer. It only gives a false sense of security (lowering cholesterol or blood pressure, for example). Undoubtedly drugs are life-savers for acute situations. But for chronic use, they merely enable you to ignore finding the real underlying cause of disease, so you can not get rid of it and cannot get free of medications. Meanwhile, each drug has a laundry list of side effects that insidiously weaken your system and deplete detox nutrients faster. This sets you up for worsening of your initial disease plus the development of new diseases that seem unrelated. Clearly, **with drugs, the sick get sicker, quicker.**

In one study, hair mercury content was assessed in 1,014 men ages 42-60 years. One of the strongest predictors of who would get arteriosclerosis over the next four years was who had the highest hair mercury levels. Their hardening of the

arteries started as thickness of the artery which eventually plugged completely, reducing flow to the brain (this progressive common carotid intima-media thickness was determined by ultrasonogram) (Salonen). Yet how many internists, neurologists, or cardiologists assess mercury burden in someone complaining of dwindling brain function, dizziness, or headache? Instead, we wait until worse heart or brain symptoms emerge like a heart attack or stroke, and then begin a life sentence to expensive drugs that do not cure, but are guaranteed to bring new problems.

And many other things besides mercury can elevate cholesterol or damage its normal metabolism. Chief among the causes are the trans fatty acids so ubiquitous in the American diet, and that you learned how to get rid of in previous chapters. Sometimes the cause and cure of high cholesterol can be as simple as correcting a magnesium or copper deficiency, while other times there are undiagnosed nanobacteria, and much more as the cause.

Meanwhile according to the 2001 Centers for Disease Control and Prevention study, one in ten American women of childbearing age is at risk for having a baby born with neurologic problems due to mercury exposure, which means 375,000 babies a year. And this does not count the kids with subtle undiagnosed problems like intellectual levels inferior to their parents' I.Q. Plus this mercury is what they were born with, for they will accumulate more, just from dental fillings alone. Then factor in the accumulation of acrylic glues and dental adhesives (which have caused heart attacks), plus the porcelain crowns that contain cadmium (that you have just learned about), and the white composite fillings that leach plasticizers (which are hormone mimics). Don't forget that

these toxic teeth are connected to acupuncture meridians, which in turn provide access to every other organ in the body. And these are just some of the toxins in the teeth.

Mercury Detox Cocktail

Fortunately for us, mercury loves sulphhydryl groups. We have capitalized on this to make the mercury detox cocktail. Start with the same Vitamin C Powder, Lipoic Acid, and Recancostat that you used for your detox cocktail. But also have your RBC (red blood cell) selenium measured (MetaMetrix 1-800-221-4640). If the selenium is low or low normal, add one **Mercury Detox** (Tyler), which contains selenium as well as other nutrients to your detox cocktail. This constitutes your mercury detox cocktail, used one to three times a day, with a large glass of water.

For years we have used this formulation to safely and naturally lower mercury levels within 3-6 months. We prove it by measuring before and after RBC (red blood cell or erythrocyte) mercury levels, as well as checking the selenium to make sure it does not get too high. For if it does, your hair and nails can fall out. Therefore if you have no one who will measure your RBC selenium, merely use the basic detox cocktail (without selenium) to detox your mercury, remembering it works beautifully for folks who already have a normal selenium.

Add Punch to Your Mercury Detox Cocktail

No question one of the best ways to remove mercury is with DMSA (dimercaptosuccinic acid), a strong sulfur-based chelator which is available by prescription and exorbitantly

expensive. Chemet®, at over \$350 for a bottle of 100 capsules, was first brought to the market as a heavy metal chelator for children with learning disability from lead poisoning.

But DMSA was available as a non-prescription chelator for years prior to the introduction of Chemet. Being infinitely cheaper, yet the same chemical, it is a great way to remove heavy metals like mercury, lead, cadmium, aluminum tin, arsenic, antimony and more. It is available as the non-prescription **Captomer-250** (by Thorne, available through N.E.E.D.S.).

The protocol is to first be sure your mineral levels and detox pathways are healthy. Have your doctor write a prescription for the **RBC Minerals and Heavy Metals** as well as for the **Detoxification Capability Panel (MetaMetrix)**. For to mobilize mercury from “safe” storage in tissues and bring it out into the blood stream, can force it into the kidneys, brain or other organs if your detox capability is not strong enough to complete the job and flush it out into the urine. People have died because of failure to assess detox capability before oral chelation. Next it is preferable to remove as many mercury fillings as is feasible for you. Some cannot afford removal, or cannot tolerate all the glues and plastics that may be substituted. You must use your best judgment, and finding a biologic dentist is preferred (Breiner, Hardy, Casdorph, Huggins).

Each person is unique which is why it is so important to check the **Detox Capability Panel** first, and especially if you have cancer. Remember a body with cancer is already stressed to the max. To start mobilizing nasty chemicals, especially heavy metals that were put in "safe" storage, can be

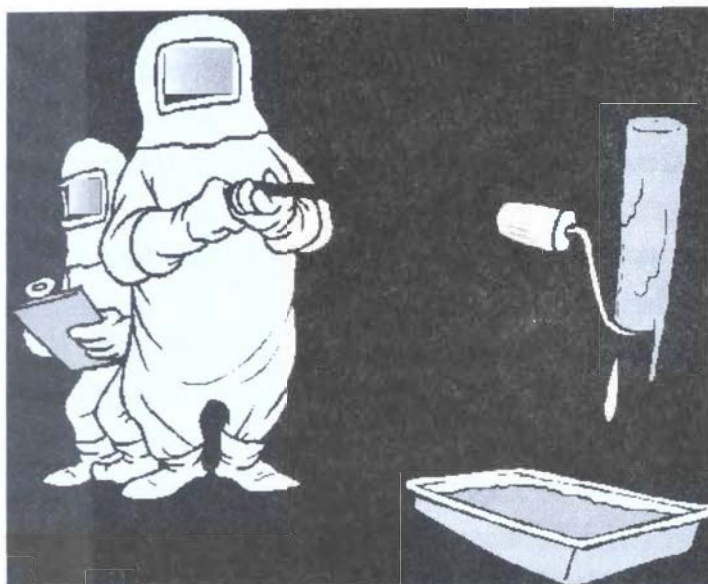
disastrously fatal. You must be sure that the detox capability is optimum and that mineral and fatty acid deficiencies have been corrected.

The **Captomer-250 protocol** is to slowly titrate yourself up from 1-5 capsules three times a day between meals for three days, during which you take no minerals (or you will waste the drug pulling out these minerals, when it is the heavy metals you are really after). Then go off for 2 weeks, during which time you should take sufficient multiple minerals to compensate for the extra minerals that chelation wastes, like zinc, magnesium, copper, molybdenum, manganese and more. Also do the detox cocktail and other nutrients at that time to boost the detoxification of dangerous heavy metals.

This cycle of 3-5 days on and 2 weeks off is repeated 3-6 times. After 3-6 months, check the metal levels to determine if you have removed enough. Be sure to check every 2-4 months your RBC mineral levels, since these are lost as well. Because you may have generalized achiness, start low with the Captomer-250, and do a daily detox enema. Only take a tolerable dose, in other words don't strive for 5 capsules three times a day if you feel awful on it. Instead, stop at the dose that is more tolerable. If you can only tolerate two or three capsules three times a day, it will just take a little longer to get rid of your mercury. Never force the body beyond its naturally safe and comfortable limits.

For starters, a simple program of the detox cocktail with a teaspoon of pure Vitamin C Powder, 600 mg Lipoic Acid, and 800 mg of Recanostat in 8-16 oz. of spring water 1-3 times a day is crucial, whether you are on or off Captomer-250. Also do the detox enema (described in *Wellness Against All Odds*)

daily, whether on or off. Minimum, take 1-3 extra Liquid Multiple Minerals (encapsulated, Carlson), a multiple like Multiplex-1 without iron (Tyler) or Heartbeat Elite (Carlson), each 1-3 a day. Additional detox boosters like Cyto-Redoxin and IndolPlex (each 1-2, 1-3 times a day) are recommended.



Captomer-250 and measuring a 24 hour urine for heavy metals may be the only way you'll find the heavy metals (like mercury or cadmium from paints) that your body needs to get rid of in order to be well.

To recap the cycled Captomer protocol: 3-5 days on Captomer, and the detox cocktail, detox enema and plenty of water. For the two weeks off Captomer, continue the detox cocktail, detox enema, plenty of water, and replace Captomer with the extra nutrients spelled out above as well as any others you normally like to take.

Heavy Metal Provocation Test

Captomer-250 has one additional use. Some people do not stockpile much of their heavy metals in their red blood cells. But they have lots hidden in the brain (causing depression or poor memory, for example) or in the kidney (causing ankle swelling, or back pain) or in some other important target organ like the heart (causing cardiac arrhythmia or congestive heart failure). The only way to find mercury or other heavy metals is to do a heavy metal provocation test.

Your doctor merely writes a prescription for **24-hour Urine Heavy Metals** (MetaMetrix). You collect urine for 24 hours on a day that you are taking 2 Captomer-250 three times a day. If heavy metals are hidden in the body, the 24-hour urine analysis for heavy metals will show elevated metals. The beauty of this test is that it reveals heavy metals the body is eager to get rid of, even though they are hidden in storage and not seen on the RBC (red blood cell) heavy metal test.

When is Your Biological Clock Set to Ring?

To recap:

- Pollutants are pervasive. We cannot escape exposure to them in the 21st century environment. There are no safe places. Furthermore, as Wallace's breath analyses showed,
- toxic environmental chemicals are continually in the exhaled breath and bloodstream of everyone.
- Not only do these chemicals overwhelm our capacity to detoxify, but because many of them are man-made synthetic compounds invented in the laboratory, the body does not have the capability to completely metabolize

today's foreign man-made chemicals. They have no business being in the body.

- Unmetabolized chemicals are stockpiled in the body, primarily in surface fat, because they are hydrocarbons which means they are lipid (fat) soluble (stockpiling in fat, like brain and cell membranes). However, they are widely distributed throughout the body organs, as they bioaccumulate and as we run out of storage depots. That is why EPA studies show that **100% of human fat biopsies contain styrene residues** (plastic wrap and plastic trays for fruits, vegetables and meats, foam coffee cups, Styrofoam, plastics, etc.), **dioxins** (from food herbicides and paper products), **xylene** (gasoline, pollutants, paints, and glues), **1,4-dichlorobenzene** (deodorizers, mothballs, sanitizers for furniture and construction textiles, bedding), and much more.
- All of these chemicals and more are a pervasive part of our everyday air we breathe, the water we drink, and the food we eat. Not a day goes by when we don't silently add to our load. We are truly a polluted people, for there is no question that environmental chemicals persist in the human body (U.S. EPA, Kraul, Wolff). Furthermore,
- no one can predict the effect of the total load or combination of hundreds of chemicals in each person. We are all like a *time-bomb* waiting to go off. Clearly,
- chemicals use up or deplete detox nutrients that could have, should have been used to protect us from all diseases and aging. Last but most important,
- environmental chemicals can mimic or produce any symptoms, as scores of toxicology books and thousands of scientific papers prove (Sullivan). I've merely given you a brief sampling here.

Weaving the Web of Wellness

To weave a *Web of Wellness* requires as much knowledge of the total world picture as we can grasp. For who would have guessed that laboratory researchers puzzled by wildly accelerated growth of cultured breast cancer cells in a test tube would make a discovery that would tie together other mysterious world-wide observations?

What could weave a web of connectedness for the epidemic of menstrual periods and breast development in two-year-old girls in Puerto Rico, the dwarf penises of Florida alligators, cancers in ocean and lake fish, and ambiguous genitalia or abnormal mating behavior of wildlife in the woods and wilderness? And what would link all these with U.S. pediatricians on the front page of the *Wall Street Journal* prescribing Lupron, a medication causing chemical castration, for their own eight-year-old daughters with breasts? Or what connects us to the Viagra epidemic, the rapid rise in breast and prostate cancers, epidemic thyroid disorders, and the ever-increasing threat of stroke and heart attack?

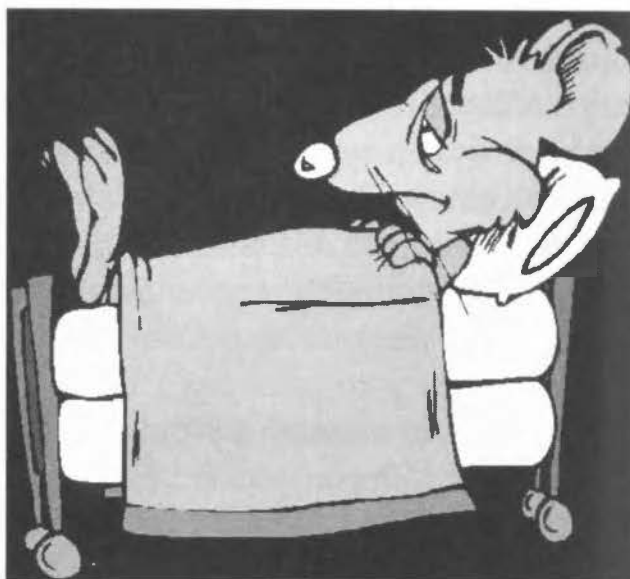
The interrelatedness, the thread that explains and connects all of these events is the toxicity of plastics. But plastics are not a solo culprit, merely one of hundreds of daily silent invisible toxins that combine to cause disease.

With answers and solutions in hand, we owe it to our children, our grandchildren, our spouses and friends as well as to ourselves to take advantage of this information. You have enormous control over your health.

Throughout this book I have tried to sprinkle evidence of how the practice guidelines are created by "experts" hired by the drug industry (Choudhry), and how polluters control government regulatory agencies (Fagin). As one example, in 1978 the United States Occupational Safety and Health Administration (OSHA) realized that the risk of developing leukemia, multiple myeloma, lymphomas and other cancers were much higher in workers exposed to benzene. They realized it was mandatory to save lives by simply changing the exposure standard for men and women who work in the rubber industry from 10ppm down to 1ppm. But the American Petroleum Institute was financially powerful enough to take the change to the United States Supreme Court in 1980 and reverse that limit. As a result, workers exposed to benzene have a 91-fold or 9100% higher chance of developing cancers by having the permissible workplace concentration remaining tenfold higher (Rinsky). This enormous exponential increase in cancer is one more example of how powerless government regulatory agencies are against nearly unlimited financial giants.

Chemicals Wreak Hormone Havoc

For over 20 years pediatric endocrinologists (specialists in children's glandular problems) in Puerto Rico have been alarmed by an epidemic of precocious puberty (premature sexual development) in children. The startling fact is the development of breasts in girls ages six months to eight years of age has risen over 18 fold.



How do research labs get experimental animals with cancer, Parkinson's disease or other diseases? They give them one dose of any one type of the numerous chemicals that we have already begun stockpiling in our bodies years ago.

Young girls being taller, heavier, having breast development, periods, axillary and pubic hair, and emotional mood swings normally associated with adolescence are becoming so common that the American Academy of Pediatrics has had to revamp its standards of what is "normal". No longer are girls who start to develop breasts and pubic hair at age six or seven considered abnormal. In fact by their ninth birthday half of African-American girls and one out of six Caucasian girls show clear signs of puberty. So the AAP has decided to call sexual development in nine-year-olds normal!

This adaptation without proper questioning is similar to the laboratories across the United States lowering their standards over the decades for the cut-off of "normal" vitamin levels. Every decade, labs dropped the lower level for the norm for B12 and folic acid. I would call the labs to ask why the

normal cutoff for B12 was no longer 250 but now was suddenly 220. In later years it dropped again to 200 and then 180. Each time the lab director told me that they obtained their "normal" values by averaging the levels of their laboratory personnel who were "healthy". So because the "norm" of folks swigging coffee, sodas, on birth control pills, eating trans fatty acids, smoking and inhaling chemicals all day was dropping, they saw nothing wrong with lowering the norm for everyone, even sick and elderly patients in hospitals.

Likewise the AAP lowered the cut-off for precocious puberty. Not only is precocious puberty a heavy burden for these children psychologically, but there is much concern that these changes can be the harbingers of earlier breast, ovarian and uterine cancers. And little boys are not immune. They have their share of increased cases of undescended testicles, testicular cancers, and other abnormalities of the reproductive system, like hypospadias. This congenital abnormality (caused by plasticizers, pesticides, cadmium, and other environmental hormone disruptors) may not sound so serious. It means the opening at the end of the urethra (the tube that runs through the penis and empties the bladder) is not at the end of the penis. Instead, they are born with it anywhere along the underside of the penis, from the base of the penis to the tip. Not only does this require surgeries, often multiple, but can impair sexual relations for this person's lifetime. You don't hear much about this, because it's not exactly something folks are comfortable discussing.

If these damages were not enough, environmental endocrine disruptors also damage brain function as well as the immune system. Because of the ubiquitous amounts of environmental endocrine disruptors, both sexes are experiencing increased

learning disabilities, behavioral problems and signs of weak immune systems, like increased allergies and infections. Then they can look forward later to infertility, abnormal menses, endometriosis, unattained career and family goals, dysfunctional personalities and social relations, ovarian and testicular cysts, cancers, and more.

As with most other important discoveries, it was a collation of many events that enabled researchers to weave the web of connectedness. Scientists found that the wild growth of breast cancer cells in their test tubes was accelerated by phthalates or plasticizers leaching out of the test tubes into the culture media. The tiny amount of plasticizer coming out of the test tubes acted like an estrogen, acted like fertilizer for cancer cells. This is similar to the amounts of plastics leaching into our foods every day, from our water bottles for example, that leaders in the food industry tell us are harmless. But when scientists agree that the average daily intake for a human is 2-3 mg of phthalates in a day and that the half-life is roughly 18 hours, there is clearly a steady stockpiling.

In other words, half of the daily intake may be metabolized in some people within 18 hours. Factor into this that many people have a nearly constant infusion of "food" (sodas and packaged snacks) laced with plasticizers, pesticides and heavy metals like cadmium. Simple mathematics shows why we never totally get rid of the amounts we ingest in one day. Instead, they steadily accumulate throughout our lifetimes, getting progressively higher and combining with multiple other chemicals until we finally get a fatal disease.

A study by the U.S. government's Centers for Disease Control and Prevention showed women of childbearing age had the

highest levels of phthalates in their blood. These are the very same environmental endocrine disruptors that caused abnormal growth of sexual organs in animals in the wild. Plasticizers in the blood come mainly from food and beverage, and air pollution from plastics in home and office environments as well as municipal incinerators and factory smokestacks. But having an intravenous (IV) via a plastic bag with plastic tubing (as with chelation therapy), working in an industry that raises your exposure level, or living or working in a new or recently refurbished environment, for example, raises the levels even further. **Pollution weaves the web of connectedness.**

Pervasive Plastics Lead to Precociousness

Phthalates or plasticizers are everywhere in our air, food, and water. We cannot easily avoid them. They are transmitted from the mother's bloodstream through the placenta to the baby and also into breast milk. Baby bottles are now made of plastic and most foods are in plastic pouches, plastic bottles or encased in plastic wrap. Boiling or microwaving foods in plastic sacks actually makes sure that even more plastic will get into the food. In case we don't measure up to our daily average dose of phthalates, the majority of our meats, fruits, and vegetables are packaged on Styrofoam trays that also leach phthalates.

Studies show that this *plastic leaches right out of plastic wrap and into the foods where it stays until you ingest it*. Not only that, but studies of the see-through cellophane acetate window on cookie (doughnuts, pasta, etc.) boxes show that the food does not even have to touch the plastic. There is enough phthalate or plasticizer in the air inside of the box to penetrate the

cookies and give a level of as much as 4 mcg of phthalates a day (and sometimes more) for just half a pound of cookies (Castle).



Breasts and menstrual periods for eight year old children have become the norm. Their childhood has been silently stolen by plastic manufacturers.

And even though plastics provide a never-ending source of phthalates, we don't have to rely on them for poisoning the endocrine or glandular system. There are plenty of phthalate-type chemicals in the form of pesticides that make their way into our air, food and water. And this does not even count the contamination of waterways with hormones and hormone mimics from human urine (Premarin, birth control pills, Estrace for prostate cancer, tamoxifen for breast cancer, Lupron for endometriosis, Tagamet (cimetidine) for heartburn, and other hormone receptor disruptors).

In addition, we inhale phthalates (along with PCBs and dioxins) as part of our air, contaminated from the incineration of plastic wastes. When plastics are burned, massive amounts

of phthalates are released into the air and make their way even into pristine lakes and rivers where they damage the hormones of fish, fowl, and wild animals. Detergents, pesticides, factory trichloroethylene and even heavy metals like cadmium and mercury are also potent environmental endocrine disruptors.

If that were not enough, we have a nation crazed by Monsanto. In attempt to sell their genetically engineered soybeans, they have convinced women that they need a hefty diet of tofu that contains daidzein and genistein, natural endocrine modulators. The media hype has convinced parents to give their infant males soybean formula and soybean milk for cereals. As they grow older, they have dairy-free soybean cheeses and "low calorie" soybean ice creams and erroneously think that a diet high in estrogen modulators, genetically engineered and laced with Roundup pesticide, is a healthful alternative to unadulterated (BST-free) dairy.

Meanwhile we have record high infertility and impotency, as well as bizarre glandular or endocrine cancers occurring at progressively younger ages. In fact children ages 1 through 15 now have the distinction of having cancer as the number one cause of death by disease (accidents, not a disease, are number one). They have beat out adults who only have it as the #2 cause of death.

We know that the causes of all these diseases including cancer are *multi-factorial*. No one is saying that they're all totally due to plastics. In fact, **plastics are just one minuscule example** of the hundreds of environmental chemicals that we stockpile and that cause our diseases. But government scientists do

know for sure that they are surprised by the high level of phthalates or plasticizers in human beings. They plan on studying it for the next few decades. How old will we be by then? And how many disease labels will we have acquired? After all the average life span for a *useful* life (not disabled by disease) is only 70 years in the U.S. (Fuhrmans).

In addition to plastics, the EPA also found dioxins and PCBs, (known endocrine disrupting environmental chemicals) in 100% of human fat samples. These two man-made chemicals are among the top most potent causes of cancer known to man. *No wonder cancer has reached an all-time high as we all continually stockpile what we are unable to metabolize.* We were not meant to live on a diet of PCBs, dioxins, pesticides and plastics, yet there are no humans or animals without them.

I'm baffled by the education gap when I see militant parents on TV who want to make sure television programs are appropriate for their children. This is highly admirable because who would want to have our children grow up too fast and deprive them of the wonders of childhood? But to have the same parents mindlessly loading their shopping carts each week with processed foods loaded with trans fatty acids (which damage the cell membranes and more importantly the hormone receptors) is counterproductive. And most of them don't even know what a trans fatty acid is, much less the health dangers of phthalates, PCBs, and plasticizers. They have no idea that most of the foods they give their kids contain trans fatty acids disguised as hydrogenated oils. One glance at all the plastic soda jugs, plastic fruit juice and milk bottles and other plastic beverage containers in their shopping carts points to a huge

information gap. It is much easier to turn off the TV set than it is to teach these parents about healthful parenting.

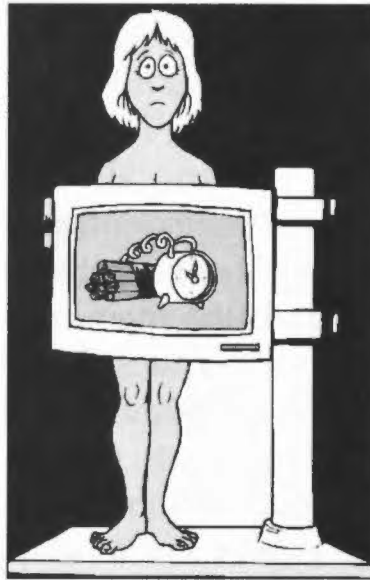
Plastic Foods Lead to Plastic Penises

One thing to remember about animals in the wild and children is that they have not been exposed to the overwhelming number of chemicals that adult humans have. Frankly, it is too difficult for scientists to make much sense out of the garbage pail of chemicals that adults carry, because they do not understand the principles of environmental medicine. For starters, most researchers fail to appreciate the **principle of biochemical individuality** where phthalates may cause precocious breast growth in a two-year-old toddler, PMS in a 22-year-old, endometriosis or ovarian cysts in a 32-year-old and breast cancer in a 42-year-old. A further quantum leap would be for them to understand how these same phthalates could contribute to undescended testicles in a newborn, infertility in a 22-year-old, testicular cancer in a 32-year-old, a heart attack in a 42-year-old or prostate cancer in a 62-year-old man. For many toxicologists, the primary mark of toxicity for a substance is whether or not the rat dies. They don't deal with subtle long-range, cumulative damage.

The Era of Epidemic Epidemics

We have record high hormone problems of every description, many of which researchers have traced to environmental chemicals acting like a monkey wrench in the cogwheels of our chemistry. Environmental plasticizers or phthalates can damage thyroid glands and make them hyper-or hypo-active. And they can do it without making the tests that we use to diagnose thyroid problems abnormal. This makes for **the**

perfect medical mystery: abnormal gland function with a laundry list of symptoms yet normal laboratory tests, so the physician is sure you are a neurotic hypochondriac.



We are all like a walking time-bomb ready to explode with symptoms. We don't just awaken one day with hypothyroidism, precocious puberty, high cholesterol or cancer. We have been slowly accumulating toxins that produce these diseases.

Furthermore, environmental chemicals can sit in cell membrane hormone receptors blocking the activity of hormones in spite of the fact that the body may make sufficient hormone. But once a woman gets breast cancer, she is given cancer-causing hormone mimics like tamoxifen to compete with her own estrogens, while menopausal women are prescribed hormone replacement therapy that can more than double their cancer risk. Men with heart attacks often have low testosterone levels, while men with prostate cancers are given female hormones to actually turn off their production of male hormones. But where are the physicians

interested in finding the real underlying causes and cures of all this hormone havoc?

At times it appears to be a jungle of hormone dysfunction with a multitude of diseases showing too low or too high levels. We have animals in the wild that suddenly want to mate with their own sex or are born with deformed genitalia. Then there are those with ambiguous genitalia where they are so deformed that it defies defining whether they are male or female. At the other end of the spectrum, we have the highest infertility in mankind ever on record. And we have the Viagra epidemic, complete with surgically inserted inflatable plastic balloons for the penis. You might say plastic foods lead to plastic penises. There are multiple potential contributors to impotency, including hidden infection, undiagnosed fatty acid and mineral deficiencies, trans fatty acids, pesticides, and a whole world of toxins.

On top of this, we have the anti-aging gurus tanking everybody up on hormones rather than getting rid of the *hormone stranglers*. These doctors would do a greater service by first correcting the deficiencies that have accrued over a lifetime in the cell membranes where the hormone receptors lie. This involves bare minimum checking the **RBC Minerals** and **Fatty Acids (MetaMetrix)**. For to give hormones merely gives feedback inhibition, sending the message to the gland that there is already plenty of extra hormone on board; so don't bother making any more. This in turn can stifle any remaining function the gland might have (we call this feedback inhibition). But we want to **restore** the glands to normal function, **not strangle** any small amount of function that might be remaining!

Clearly, a medical evaluation should start with checking the detox capability with the **Detox Capability Panel** (MetaMetrix). And for a quick check of whether a specific environment is harming you, such as a newly painted or carpeted office, you should have your doctor order the urine Organic Acids (MetaMetrix) and Lipid Peroxides (MetaMetrix). Have these simple tests on hand if you know there are going to be renovations or pesticing that may bother you. For these tests (especially when you have before and after values) supply the proof that excess environmental chemicals are being inhaled by you and detoxified via your urine.

Breasts can stockpile plastics and prostates can stockpile cadmium. But always bear in mind that these are *minuscule* examples of the multitude of daily chemicals that we all stockpile. Medicine is in its infancy in regard to this information. And because of the powerful lobbying of the food, chemical, manufacturing, agri-business, and pharmaceutical industries, they have become permanent bedfellows with medicine (Cohen, Haley, Moss, Epstein, Breggin, Glenmullen, Moore, Fagin, Choudhry, Rinsky). Much of this knowledge has been in existence for over a quarter-century, but most physicians have never heard of it, much less the lay population.

Power Over Plastics

Take any system of the body and some of its most common diseases:

- Nervous system, including brain fog, depression, schizophrenia, ADHD, Tourette's, Alzheimer's, Parkinson's

disease, multiple sclerosis, autism, panic disorder, migraines, learning disability, neuropathy, post-traumatic nerve pain, ALS.

- Metabolic and immune systems, including chronic fatigue, diabetes, inability to lose weight, Syndrome X or the Metabolic Syndrome, drug and alcohol addictions, eczema, intractable insomnia, recurrent infections, accelerated aging.
- Gastrointestinal system, including leaky gut, chronic Candidiasis, colitis, hepatitis, Crohn's disease, GERD, heart-burn, irritable bowel syndrome, gall bladder disease.
- Musculoskeletal system, including arthritis, fibromyalgia, lupus, degenerating disks, tendonitis, bursitis, rheumatoid arthritis, osteoarthritis, hip, shoulder and knee degeneration.
- Cardiovascular system including angina, arrhythmias, heart failure, high cholesterol, shortness of breath, cardiomyopathy, autonomic dysfunction, high blood pressure.
- Respiratory system, including asthma, bronchitis, emphysema, recurrent ear infections, sinusitis, allergies, interstitial lung disease, sore throats.
- Endocrine and genito-urinary systems, including hypothyroidism, Grave's disease, thyroiditis, infertility, prostatic hypertrophy, endometriosis, cancers of the prostate or breast, polycystic ovaries, abnormal pap smears.
- Mysterious, undiagnosable or untreatable illnesses like multiple chemical sensitivity, chronic fatigue syndrome, fibromyalgia, Gulf War syndrome, World Trade Center syndrome or Ground Zero syndrome, erythromelalgia, etc.

Notice anything missing? The **detoxification system** is the most important system, because that **determines whether or not we get any disease**, including cancer. For it is the overloading and fouling of the detox system that leads to

disease. With over 6000 common everyday chemicals, each alone can lead to a laundry list of possible symptoms. Instead, in "modern" medicine, every symptom becomes an automatic deficiency of some drug. Not only do we fail to look for simple solo causes of disease, but when it comes to the *chemical soup* or combination of multiple chemicals that we all have stockpiled over a lifetime, this is completely ignored in medicine. Fortunately you can turn the hands of time back.



You can't make time stand still. We are all steadily accumulating disease-producing toxins. But there is a way to remove toxins and essentially turn back the hands of time.

So what are some of the **things you could do today** that would start you on a healthier track?

- (1) Make a concerted effort to reduce processed foods and plastics. Never microwave especially in plastic pouches, Tupperware or other plastic containers. Don't put fruits and vegetables in plastics in your refrigerator crisper, and use cellophane bags (see AEHF resources), glass, ceramic

dishes or stainless steel containers. Don't buy fruit juices, milk, or water in plastic whenever you can help it.

- (2) Make sure your kitchen faucet has a water filter, either an inexpensive charcoal block (Natural Lifestyle, AEHF, NEEDS) or reverse osmosis or distillation or alkaline water machine (High Tech Health), so that you can carry your own water in glass to the office and sports.
- (3) Be sure you have 1-2 servings of Brassica vegetables each day, since they rev up the ability of the body to detoxify environmental chemicals as well as safely shuttle hormones away from the cancer-promoting forms and into the cancer-protecting forms. Brassica include Brussels sprouts, broccoli, cauliflower, cabbage, sauerkraut, horseradish, kale, collard greens, mizuna, turnips, radishes, kohlrabi, rappi, watercress, and more.
- (4) Incorporate **IndolPlex** (Tyler) 2 caps twice a day into your supplement plan to improve the metabolism of hormones as well as chemicals. For this non-prescription is a concentration of the healing Brassica nutrients which actually protect and boost our detox defenses against the cancer-causing effects of plastics, pesticides and other environmental hormone disruptors.
- (5) Do the daily detox cocktail.
- (6) Cut trans fatty acids out of your diet.
- (7) Consider the detox protocol described in the next chapter to permanently get rid of these chemicals that will otherwise continue to stockpile the rest of our lives.
- (8) Educate your friends and family about the pervasive, pernicious power of plastics to destroy health.

If you feel overwhelmed, just remember that everyone does:

- Scientists are overwhelmed by the amount of chemicals that they're finding in humans;

- physicians are overwhelmed by the epidemic of new epidemics and lack of knowledge of molecular biochemistry;
- we all feel overwhelmed by the environmental toxins that are everywhere and unavoidable;
- and many people are overwhelmed with an "incurable" disease.

Rare is the person who could make a radical change in one day or even one year. But just as every journey begins with one step, every bit of knowledge that you attain, helps you make a better decision next time you reach for those plastic bottles in the supermarket. You vote and make your voice heard with your shopping cart. And with it you determine your health.

Each day stored toxins in the body are capable of mimicking every symptom and disease known to man. Xenoestrogens in the form of pesticides, detergents, plastics (food wrap, soda and water bottles), industrial and auto exhaust, PCBs, heavy metals, and more turn on and off estrogen receptors in men and women (Arnold). And these environmental chemicals are even more damaging to the developing brains and thyroids of the young (Porterfield).

No wonder Columbia Presbyterian Medical School researchers have published in *Science* that **the cause for 95% of cancer boils down to diet and environment**. And although these chemicals may have strange sounding names, they are in, for example, our everyday foods, carpeting, pillows, mattresses and other furnishings, the construction materials for our homes and offices, water supplies, dental materials, and more. They are virtually unavoidable.

Fortunately, there are solutions that can make a huge difference.

Take Any Pollutant, Drug, or Disease

I'm sure you have an appreciation now for the fact that any pollutant can trigger literally any symptom in any person. It all depends upon each person's individual biochemistry and total load of toxins. You saw how cadmium, as one example, can cause a myriad of diseases. But instead we treat the warning signs with drugs which merely turn off the symptom pathway so that we temporarily stop hurting, lower our blood pressure or cholesterol, or no longer have to urinate every hour all-night long because of a swollen prostate.

But what still blows my mind is that we can have esteemed Harvard researchers showing us that, for example, as the daily air pollution rises, so does the number of admissions for heart attacks (Peters). And air pollutants do this by a variety of means. They increase the stickiness of platelets, increasing the ability to form blood clots. They increase the inflammation inside the blood vessel as measured by the hs CRP blood test. And they poison the autonomic nervous system and cause arrhythmias. Meanwhile the heavy metals, volatile organic hydrocarbons and other components of air pollution cause the generation of free radicals, which then trigger the high cholesterol Band-Aids. The same pollutants grab onto cell membranes of heart muscle cells weakening them to the point of congestive heart failure or plug hormone receptors so they no longer properly function. But where are the physicians listening to these Harvard researchers?

Regardless of whether someone has high blood pressure, arrhythmia, congestive heart failure, or is recovering from a heart attack, what is the number one prescribed drug by all heart specialists or cardiologists in the United States? The **calcium channel blocker**. It is disguised as names like Procardia, Adalat, Norvasc, Calan, Cardizem, Isoptin, Plendil, Vascor, Verelan, nifedipine, verapamil, diltiazem, amiodipine, felodipine, and more. Where are the physicians looking for the underlying damage? As you are beginning to learn, the calcium channels or pores in cell membranes have been damaged predominately by two things: diet and environment. Some of the major culprits in the environment that are proven to damage the calcium channels include PCBs and mercury (Bemis).

But instead of getting these toxins out of the channels, drugs are used to just turn off the normal function of broken calcium channels. Likewise the major food trigger for damaging calcium channels in cell membranes are the trans fatty acids, cleverly disguised as "healthful" hydrogenated vegetable and soybean oils. But rather than giving you an oil change, you're given a drug that allows you and your doctor to ignore the damaged calcium channels. No wonder *there's a higher cancer and heart attack rate with folks taking these drugs*, because they allow the sick to get sicker quicker.

And do not overlook the scariest fact: calcium channel blockers, the number one prescribed drug by cardiologists, have been proven with MRI (special x-rays) to cause *shrinking and deterioration of the brain*. And all the while folks religiously fork over in excess of \$100 a month for a drug that they think is going to help them, oblivious to the fact that it is a slow brain destroyer. So it should not come as a surprise when an

authoritative article in the *New England Journal of Medicine* by medical experts recommends the use of calcium channel blockers, but never mentions looking for the underlying cause of damaged calcium channels. Want a real surprise? These "experts" had financial ties with the manufacturers of calcium channel blockers (Stelfox).

Meanwhile, look at the millions of folks who are never prescribed the lifesaving **Estronex Test**, a simple urine test you can do at home. We are smothered by hormone mimics that are capable of triggering cancer, like plastics, pesticides and detergents in our air, food, and water. More serious are the millions of women taking Premarin and other hormone replacements that nearly triple their risk of cancer. Wouldn't it be wonderful if they knew whether their chemistry was being pushed to make cancer (Nakhla, Bradlow)?

Relax and rejoice. That day is here for we all have total control! To recap this life saving step, have your doctor write a prescription for the Estronex test, call the 800 number for the kit, and put the urine in the kit according to the directions. Call the 800 number for pickup. What could be easier? If you have too much of the cancer-causing form of estrogen (16-hydroxylase), you have many options. You can start by revving up the ability of your body to detoxify it with non-prescription **IndolPlex** (Tyler, NEEDS) 2 twice a day. Then repeat the test in a few weeks. If you are still pushing your chemistry toward cancer, do an "oil change" and correct missing minerals for starters. Switch off processed foods for more whole foods. The next chapters provide further detailed solutions.

Men also need the Estronex test, as pesticides, TCE, cadmium and other chemicals push estradiol metabolism toward cancer. At the same time that you have the Estronex test ordered, why not have the same lab measure your mineral deficiencies with cadmium, mercury and other heavy metal levels that contribute to prostate cancer, plus fatty acids and your ability to detoxify? These certainly would be infinitely more useful than the PSA (prostatic specific antigen), which merely indicates when you have finally metamorphosed into cancer. The great news is you have total power to avoid tragedy by fixing what is broken before you get the symptoms.



Diesel fumes, cadmium and other exhaust pollutants slowly target the heart for many. But if they survive the heart attack, who is there to unload the heart so it doesn't crash again? After all, the drugs hasten demise and within six months of bypass surgery, half the folks are already re-clotting their new vessels.

Often when physicians have never ordered these tests they are leery about being able to interpret them, but the laboratory personnel are very happy to help them. Also for the more adventuresome and those who are really interested in doing state-of-the-art medicine, they should read *Laboratory Evaluations in Molecular Medicine* (Bralley JA, Lord RS, 2001, Institute for Advances in Molecular Medicine, Norcross GA, 1-800-221-4640). Phone consultations are available by contacting my office.

How much proof do we need? I have provided a fraction of the evidence. Everywhere we turn new studies pop up showing, for example, that the soot and tiny particles from trucks, buses, tractors and construction equipment increase early deaths from lung cancer and heart disease. This *Journal of the American Medical Association* study shows how these everyday emissions that are unregulated affect the health of millions of Americans (Fialka). By now you should be convinced that environmental chemicals combined with nutrient deficiencies are the backdrop, the underlying thorn in the thumb, the nail in the shoe, the cause of all disease. If we are lucky, when the total load of environmental pollutants exceeds the detoxification ability of the individual, only minor symptoms or disease results. This is a gift: a golden opportunity to nip it in the bud. Clearly *any symptom is a God-given opportunity to reduce the total body burden* or total load of environmental and dietary triggers in order to turn back the hands of time and bring about a cure at the same time.

Better yet, in the next chapters I'll show you how to get these poisons *out* of your body. If you have a realistic desire to heal the impossible after you have been told there's nothing more that can be done, you need to learn how to safely depurate

(get rid of) a lifetime's accumulation of pervasive poisons. And even if you are well, it makes perfect sense to turn back the hands of time. Start cleaning out and reduce your load *before* disease strikes. For no one knows when your biological clock is set to ring.

Getting Rid of Environmental Toxins Reverses Disease

Let's quickly summarize the fundamental facts you are building on about disease, which are still unappreciated or ignored by most of medicine.

- Thousands of environmental toxins permeate every aspect of our air, food, and water. They are unavoidable.
- These toxins invariably make their way into our bodies. For many of them, the body has no known detoxification mechanism. And even for things it can metabolize and get rid of, the quantities and combinations we are exposed to overwhelm our ability to detoxify the awesome amounts we accumulate each day.
- The result is that we slowly, silently, innocently stockpile these chemicals in our bodies.
- Once these chemicals have been tucked away in "safe" storage, they do not stay put, but slowly migrate through the body damaging our cellular chemistry in a myriad of ways.
- Eventually the poisoning reaches a point where the damages result in symptoms and disease labels.
- All medications turn off damaged pathways, but do nothing to get rid of the underlying causes, much less bring about a cure. In fact by adding one more chemical to an already overwhelmed body, and using up further detox nutrients, they usher in new symptoms and diseases.

In this chapter, I want to give you the remaining and most important piece of the puzzle: the evidence that removing the

cause, the chemicals, is *the only proven way to get rid of the diseases and symptoms* safely, inexpensively, naturally, logically, scientifically, and permanently. There is no other way that meets all these criteria. For the majority of diseases there is "no known cause or cure", but that is merely because the "authorities" who tell you that are not aware of the facts you will learn in this book. Furthermore, physicians are programmed to practice the drug-driven form of medicine where every symptom dictates a drug or surgery. But we know why every disease is a lifetime deficiency of some drug. As the February 2002 *Journal of the American Medical Association* study showed, over 87% of physician "experts" who write the treatment guidelines (dictating for physicians how they should treat every disease) receive some compensation from the pharmaceutical industry (Choudhry). No small wonder they do not want doctors looking for your biochemical deficiencies and toxicities, since they have a vested interest in making sure that their patented blockbuster drugs are the mainstay of treatment.

Medicine's solution for nearly every disease is a lifetime sentencing to costly medications with a laundry list of side effects. That is why the number one cause of death in the United States is not a disease, but is death from the side effects of drugs (complete references and explanation in the *Total Wellness* April and May 2002). For other diseases you may be told there is no known cure, you just have to learn to live with it, or your days are numbered and you should get your affairs in order. But once you get rid of the underlying cause of environmental chemicals, the body is usually able to heal itself and disease melts away as cases clearly show.

The only proven way to reverse disease and permanently get rid of it is to permanently get rid of the underlying causes and correct the damage that has been done. The formula is to reverse the toxicity and correct the accompanying nutrient deficiencies. *Toxicity is a one-way street leading to disease; the key to healing the impossible is to reverse the toxicity.*

Detoxification is as crucial for the addicted individual trying to get free from alcohol, prescription drugs, or street drugs, as it is the couple considering getting pregnant. Young or old, healthy or sick, there is not a person who would not benefit from unloading their burden of disease-producing toxins. For there are no "clean" or chemically free people left on earth (Turusov, EPA). Even the newborn already has the chemicals he got from his mother through the placenta. There are likewise no clean animals, nor large bodies of water. Every ocean, sea, gulf, lake, and river has measurable levels of xenobiotics. The government's *Environmental Health Perspectives* medical journal (Martineau) reported that one-quarter of the whales found dead at the mouth of the St. Lawrence River (gateway to the Great Lakes) died from cancer, the same percentage as in people. We are continually confronted with unprecedented chemically-induced mortality.

The fact is that tough diseases cannot heal until the body has unloaded its burden of stockpiled, disease-causing chemicals. The mechanism for healing is stonewalled until we *turn back the hands of time* and get rid of the large burden of stockpiled chemicals. But there is no medication to get rid of these chemicals, while our detoxification chemistry is unable to metabolize most of these synthetic chemicals that have no place in the body. Fortunately, there is one God-given safety

valve through which they can escape. And as I will show you, backed by numerous studies, also getting rid of the cause is often the sole cure. Others need to diligently repair the damaged cell membranes and detoxification systems that were left in the wake.



When you take a closer look, all disease has critical components of environmental toxins and nutritional deficiencies, both of which are completely reversible.

As you will see, the proof has been there for decades. We are the first generation of man to ever have been exposed to so many chemicals that silently bioaccumulate. The most fascinating part is that once these chemicals are removed, conditions that have baffled the most prestigious medical centers, and diseases that were thought to be incurable, magically melt away.

The Invisible Crux, the Detoxification System

You have heard of the cardiovascular system, the nervous system, the respiratory system, the gastrointestinal system, even the impalpable immune system. But they are all paralyzed if the detoxification system is not functioning. Although the detoxification system is the most underrated of all the systems taught about in medical schools, its function determines the presence or absence of disease in every other system of the body. Detoxification is clearly the primary determinant of disease. So let's learn more about this beautifully orchestrated biochemistry which is arbitrarily divided by scientists into two phases, phase I and phase II.

In phase I the detox chemistry merely moves electrons around. This shifting of electrons through a variety of choices (oxidation, reduction, hydrolysis,) prepares an anchor site for phase II. But not all results of this *dance of electrons* are favorable. Sometimes we create a more toxic substance, as is commonly done with chemicals that outgas from plastics, like vinyl chloride and styrene, as well as trichloroethylene, found commonly in U.S. water supplies. Yes, unfortunately the body actually can use phase I to create a more potent cancer-causing chemical than the original compound. Cancer-causing epoxides and DNA adducts (that trigger cancer genes) are created, especially if the system was unable to make the chemical less toxic, either because of competition or overload from other chemicals.

One important enzyme in phase I is *alcohol dehydrogenase* which requires a molecule of *zinc* to function perfectly. The next step often uses the enzyme *aldehyde oxidase*, which requires a molecule of the mineral *molybdenum* for perfect

function. Right away you can see that if your diet is low in either of these minerals, you may not properly metabolize environmental chemicals in the very first step of detoxification.



If you feel like you've had a drink or two in certain environments, you may have brain fog caused by defective detoxification of everyday chemicals in the brain. It could be as simple as a molybdenum deficiency.

And that is exactly what happens with some folks who develop brain fog, inability to concentrate, poor memory, that spacey, dopey, dizzy feeling. Their brains have short-circuited the biochemical transformation of an environmental chemical. They actually make *chloral hydrate* in their brains, which is the same chemical as the old "Mickey Finn", or knock-out drops (Rogers, 1990). Luckily lots of different nutrients, especially antioxidants, boost the function of phase I, like ascorbate (vitamin C), tocopherol (vitamin E), thioctic acid (lipoic acid), tocotrienols (the other part of vitamin E), coenzyme Q10, glutathione, ginkgo biloba, pycnogenol,

carotenoids, taurine, quercetin, selenium, molybdenum, zinc, magnesium, and much more (Packer, Skaper).

Magnesium is an example of one mineral that is very important for phase I detoxication. And yet, the average American diet only provides about 40%, or less than half the amount that we need in a day. Furthermore, studies in the *Journal of the American Medical Association* (Whang) clearly showed that even though well over half of the hospitalized population is dangerously low in magnesium, over 90% of doctors fail to even order a test for magnesium, much less the correct test. Unfortunately many of these people died (and continue to die) from their undiagnosed magnesium deficiencies. And when they did order a magnesium test, it was the wrong test. They ordered the **less sensitive** serum magnesium. Less than 1% of the body's magnesium is in the serum. The infinitely more useful test is the RBC (red blood cell) magnesium. Do not settle for a serum assay.

Phase II of detoxication is a bit trickier. Now that electrons have been moved around on the surface of the chemical, the body can *hook a large molecule onto the chemical* at that prepared anchor site. This makes the unwanted chemical heavy and polar (electrically charged). This makes it easier for the body to drag the chemical out of the bloodstream and into the liver, then into the gall bladder, where it is finally excreted in the stool. Thus our foreign chemicals end up right where they belong, off to porcelain pastures.

There are lots of types of molecules that the body uses for this phase II process called *conjugation*. But do not let that big word scare you, because all it means is we have "married", coupled, or hooked a big molecule onto the chemical

(conjugated it), making it heavier and easier to drag out of the body. For conjugates, the body uses sulfur groups (which is why onions and garlic are so good for you), amino acids like glycine, cysteine, taurine, and other substances like glucuronic acid. But one of the most important conjugating molecules that we use to get rid of disease-provoking chemicals is *glutathione*. You remember this as the Recanostat in your detox cocktail. We make this in the body, but in this era of unprecedented pollution, we cannot make as much as we need.



Conjugation, phase II of detoxication, merely means one of the body detoxifiers, like glutathione, marries itself to the chemical and then carries the chemical over the hepatic threshold and into the gut.

Detox Depletion Leads to Disease

Glutathione, one of the major tools the body makes for phase II of detoxication, is critically important in the body. It is so

pivotal that it is a hallmark of aging and disease. For example, we make less glutathione as we get older and not surprisingly, glutathione is lower with the more diseases that we acquire (Nuttall). But if you remember nothing else about all of this molecular biochemistry and how we detoxify our everyday onslaught, remember this: **every time we detoxify a molecule of chemical, we lose, throw away, use up, deplete a molecule of glutathione forever.**

Why does this happen? Remember these conjugating molecules are made to hook onto nasty chemicals and drag them out of the body into the stool so that we can get rid of them. So for every molecule of pesticide that you unknowingly inhale in the grocery store, you lose one molecule of glutathione with it. And if you fall behind in synthesizing enough glutathione to compensate for your daily exposures of chemicals, then as Harvard researchers have demonstrated, you do not have enough on board to protect you from the everyday chemicals that damage genes and cause cancer and other diseases (Trickler, Wiseman). This important fact is the basis for much unnecessary disease.

Remember when researchers want 500 rats for cancer research, they merely give them a dose of one chemical. But if they give glutathione before, during, or after the chemical, the rats do not get cancer. Researchers have likewise reversed a variety of diseases, including serious neurological diseases like Parkinson's disease (Perlmutter), as well as cancer with the detoxication booster, glutathione. These cancers have ranged from aflatoxin B-induced hepatocellular (liver) cancer (certain mold toxins are extremely potent causes of liver cancer, Novi), to oral cancers (Trickler), human hepatocellular

(liver) cancers (Hoff), and glutathione has even lysed or killed leukemia cells (Zucker).

These minuscule bits of evidence from mountains of research confirm that detoxification of our lifelong cumulative effects of diet and environment is key. For the use of simple nonprescription detoxication boosters before, during or after a cancer (or any disease) plays a decisive role in its future course. To treat anyone with cancer without measuring their glutathione, for example, is counter-productive, for it forces the physician to work blind, when he shouldn't and doesn't have to.



Remember one dose of an everyday chemical like an organic pesticide is all it takes to create an experimental rat with Parkinson's disease, cancer, or any other disease.

The recipe for the tri-peptide glutathione is simple: cysteine, glutamic acid, and glycine. But glycine is also used by itself to hook onto chemicals in order to detoxify them, via

conjugation. For example, you may get severe headaches or brain fog at work from newly painted walls, new carpeting, unvented garage fumes, or nasty restroom air fresheners. You can prove that your body has been poisoned by toluene or benzene by measuring the glycine conjugate in the urine (Organix) as hippuric acid (Gregus). Any physician can order this simple urine test for you. And why is one person affected more than others? Because people vary tremendously in their ability to detoxify (Temellini). In fact, our ability to detoxify chemicals is as individual as our fingerprints and faces.

The Medicine Merry-Go-Round

At this point if you feel a little overwhelmed, you really should be congratulating yourself, because you now understand more about real medicine than many physicians. You can begin to understand why, for example, studies show that ubiquitous diesel exhaust that the body is unable to detoxify, can go on to damage an enzyme that leads to hypertension (Chaudhari). But that damage is only the tip of the iceberg, since lowered glutathione now makes you vulnerable to other diseases like bronchitis, allergies, or recurrent infection (Fahy, Neln, Peterson). Suddenly you have jumped onto a *merry-go-round of diseases*. And for every disease, medicine has a new drug with a long list of side effects that will bring on even more new symptoms. Pick up any leading medical journal and the treatments are all the same: every disease is a deficiency of some drug.

For example, if the accumulation of *diesel exhaust has caused hypertension*, the first drug use by medicine is a fluid pill, but diuretics accelerate the loss through the urine of potassium and magnesium. Unfortunately, deficiencies of either of these

two minerals can also cause hypertension. So as the blood pressure goes higher, and new medications are brought onboard, these usually include a calcium channel blocker. But calcium channel blockers cause shrinking of the brain and function loss within a few short years. Not to worry, this is casually dismissed as "normal aging" or later, Alzheimer's.

In the meantime, the magnesium deficiency remains uncorrected and is increasing with the continual use of diuretics, so other magnesium-induced deficiency symptoms start piling on. Besides higher blood pressure, now you have palpitations, migraines, asthma, colitis, muscle spasms and back pain. Soon you feel like you have joined the disease-of-the-month club, for you have a pocket full of pills and a laundry list of appointments with specialists.

Unquestionably diet and environment are pivotal contributors to cancer and other diseases, but unfortunately bureaucratic environmental standards and policies are based on many erroneous assumptions. One is that of biological homogeneity, which merely means they think we all have exactly the same chemistry.

For example, how we detoxify environmental chemicals is very dependent upon the balance between the two phases of detoxication. But there is as much as a *500-fold difference in the ability of individuals to detoxify the same chemical* (Perera). As this Columbia University School of Public Health, Division of Environmental Sciences researcher showed, some people are slower in phase II acetylation, an important conjugation pathway. These folks, termed "slow acetylators", have a much more sluggish acetylation pathway than most people do. The result of this slow acetylation is that for some types of toxins,

one plus one can equal ten in terms of the overall toxicity. These are the people who get serious side effects from drugs that rely on acetylation as an important part of their detoxication. They get lupus, for example, from drugs prescribed for high blood pressure, anxiety, or tuberculosis. Our biochemical uniqueness as individuals explains why all toxins do not affect everyone equally.



When it comes to the cumulative effects of stored chemicals, one plus one equals more like ten. There is an enormously unpredictable synergism.

Luckily there are many natural nutrients (that are either made in the body or in plants or other animals) that are able to boost detoxification. N-acetyl cysteine, glutathione, CoQ10, OPC, silymarin, calcium D-glucarate, methionine, glycine, glutamic acid, taurine, glutamine, choline, l-ornithine-l-aspartate, carnitine, DIM (diindolylmethane, IndolPlex) or broccoli phytochemicals, as well as multiple mineral chelates and vitamins are but a few examples (Ackerson, Manson). In fact,

as you will learn, many of these have been cleverly combined into solo products for your ease and economy.

By now you are also beginning to see the futility of treating every disease as though it were a deficiency of some drug, rather than finding the true underlying cause. Why should hypertension be treated as a lifetime deficiency of some blood pressure medication? Especially when improving your ability to detoxify diesel exhaust, getting rid of cadmium, or correcting an undiagnosed magnesium deficiency might cure the problem forever. And it would forestall you from going on to get cadmium-induced prostate or breast cancer.

For **drugs destroy natural function**. Rather than fixing what is broken, the pathway is merely turned off, analogous to turning off your car's flashing red oil light. That is why drug classifications include inhibitors or blockers which poison normal body processes. Just look at the classifications: antibiotics, anti-histamines, anti-inflammatory-drugs, ACE inhibitors (blood pressure medicines), ant-acids, acetylcholinesterase inhibitors (for Alzheimer's), HMG-CoA inhibitors (cholesterol-lowering medicines), and MAO inhibitors or selective serotonin reuptake inhibitors (for depression), H2-blockers (for heartburn), and calcium channel blockers, alpha blockers and beta blockers (for heart and blood pressure problems). But a new chemical to detoxify (in the form of the medication) is the last thing an already ailing detoxification system needs to be overloaded with. Clearly, *with drugs the sick get sicker, quicker*.

One of my favorite ways to boost phase I and phase II of detoxification quickly is with the **Detox Cocktail**, with which you are now familiar. Thousands of patients and readers

have used it for years to turn off symptoms like brain fog or headache after a day at work in a toxic office, or to ward off a cold or flu, dissolve gallbladder sludge, or protect themselves from cancer-causing genetic damage after exposure to a noxious chemical (Heuser, Lenton).



If the red oil light goes on, you could smash it with a hammer, analogous to taking prescription medicines to turn off signs of disease. Or you could find a correctable cause and save the life of your car.

The Secret of Sweat

So here we are riddled with disease-producing toxins and piling on more each day. Inevitably the axe will fall. But what if we could get rid of these toxins? What if we could have a body that only had the toxins we had accumulated up until 20 years ago, or better yet at age 16? What if we could get rid of our lifetime burden of toxins or even just turn the hands of time back a couple of decades?

I have followed hundreds of patients who used the oral, non-prescription mercury detox cocktail to get rid of mercury, aluminum, cadmium, arsenic, and other heavy metals. For folks who have tougher cases we can use DMPS which is available by prescription as Chemet, or the infinitely cheaper and non-prescription and identical substance, Captomer (Thorne, N.E.E.D.S.). And for folks with high levels of calcifications in their arteries EDTA is an intravenous chelator, but requires sitting hooked up to an intravenous solution in a doctor's office for four hours three times a week for 20 to 40 sessions, costing thousands of dollars. Then you need a maintenance program. A safer proven way to reverse coronary calcifications is with the macrobiotic diet (Ornish, 1998). PET scans proved that the calcifications melted away. For the full directions on doing the health-promoting diet, start with *You Are What You Ate*, then proceed to *The Cure Is In The Kitchen*, and use *Macro Mellow* for the cookbook).

But what about the cancer-causing PCBs and the multitude of plastics and pesticides with all sorts of chemical configurations that the body has no way of metabolizing? What about all of the newly synthesized dangerous chemicals that firemen, for example, are exposed to when these plastics and pesticides burn, creating new compounds that have never before been seen by man? None of these chemicals are removed by chelation or any drug.

In the 1970s a controversial gentleman named L. Ron Hubbard designed a sauna program that enabled drug addicts to detoxify. He reasoned that folks were never addicted until they had taken drugs. And the more they took, the more they craved. He thought if he could get the drugs out of the body (the unmetabolized residues), the addict

would no longer crave. He published his brilliantly successful program in his book *Clear Body Clear Mind* in 1990. Shortly after the results of the program were known, physicians from many specialties realized that this program might also be adapted for getting rid of all sorts of other types of chemicals, thereby restoring health in an endless variety of diseases (Kilburn, Schnare, Roehm, Rea, Root, Tretjak, Tei).

Sauna Proven in the Toughest, Most Resistant Cases

I always say, if you want to prove that a new medical therapy works, pick the most recalcitrant, impossible to treat conditions. For if it is a success on those cases, everything else is bound to be a "piece of cake". And that is exactly what folks have done with the sauna. By getting rid of years of drug residues in addicts, Hubbard freed them from their cravings and addictions, impressively lowering recidivism. Drugs are metabolic poisons, damaging the normal function of the body. Only when years of drug residues have been reduced are folks freed from the plague caused by the slow leeching out of sub-therapeutic doses of stored drugs and toxins. For these trace amounts unmercifully trigger cravings, reminding them that they need a higher dose to block out all feeling. For addicts it is imperative to get rid of all drug residues in order to cure their cravings and addictive behavior. This includes alcohol, cigarettes, and prescription drugs.

In addition, the accompanying nutritional program has corrected long-standing deficiencies that also trigger addictive behavior, fatigue and a myriad of symptoms. For when it comes right down to it, chronic drug addiction has two causes: nutrient deficiencies which cause cravings and stockpiled unmetabolized drug residues that slowly leach out

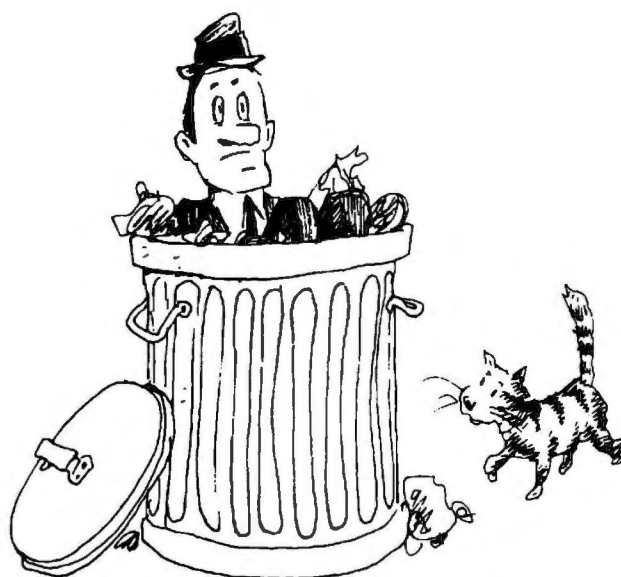
and cause cravings. That's why drug pushers give so many freebies, because once you get it in your system, it is difficult to resist wanting more, depending upon each individual's chemistry. The trick is to be smart enough to never take the first dose.

But proof only began there. One of the worst occupations for bizarre chemically-induced or toxic symptoms is that of a fireman. This is because when modern home and commercial furnishings and construction materials burn, they release even more damaging chemicals whose carcinogenic potential has become magnified. Not only does burning of a multitude of phthalates and other plasticizers, PCBs, dioxins and related compounds create chemicals that are many fold more toxic, but when they are inhaled in massive amounts by fireman, it gives them as high a level as if they had had it by IV.

These chemical concoctions have caused the most difficult to diagnose and treat disorders, especially of the brain and the nervous system. But researchers using Hubbard's protocol (Kilburn) were able to accomplish what medicine was paralyzed in accomplishing. They restored these toxic firemen to normal once they got rid of their tightly stored chemicals. A sauna program is still the only known way of getting rid of these 20th century man-made chemicals.

Using Hubbard's protocol, other researchers (Schnare, Roehm) cleared people of PCBs and pesticides as well as Agent Orange (dioxins). These were folks who had undiagnosable and untreatable symptoms, totally resistant to all therapies that medicine could offer. But the Master Planner, left one route for us to unload a lifetime of damaging, disease-producing chemicals: **SWEAT**.

Other clinicians reaffirmed the benefits of detoxifying saunas when, as a result of accidents involving pilots who did aerial spraying of pesticides, these men were also cleared of life-threatening symptoms. Likewise residents of Michigan gave us a huge amount of scientific information when a PCB-laden cancer-causing fire retardant was accidentally put into animal feed, contaminating their entire dairy industry, milk and cheese, statewide, forever (Wolff).



Clearly we have trashed our bodies. Luckily, you have the power to reverse that.

Studies six years later, showed that Michigan residents and folks from over 25 other states who also got the PCBs hidden in their dairy products, just did not get rid of those nasty PCBs. The body does not have the chemistry to do so. Even in the soil these chemicals are what we call persistent environmental poisons. But those who did saunas were able to eliminate the PCBs as well as other stored toxins from their bodies. The truth is we have all eaten foods from Michigan

and have slowly bioaccumulated these and hundreds of other similar toxins that are known as some of the most powerful inducers of cancer in existence. Remember, EPA studies show 100% of humans harbor PCBs, one of the most potent causes of cancer known to man.

But the proof for the magic of sauna detoxification does not end with drug addicts, fire fighters, Vietnam vets, pesticide pilots, or consumers of polluted dairy. Other researchers and clinicians studied workers accidentally contaminated from occupations as diverse as electricians to farmers. Meanwhile, machinists to office workers also had their lives saved, as serious conditions that medicine was powerless to help were reversed through the use of sauna.

Then there are my hundreds of patients with severe chemical sensitivity, saddled with just about any symptom you can think of, who have traveled the world in search of how to get well. When exposed to simple everyday perfumes, fabric softeners, carpets, pesticides, malls or traffic fumes, they were left unable to think or in total body pain, as examples of hundreds of symptoms. Some were referred to the specialized environmental units like the Environmental Health Center of Dallas, (Dr. William J. Rea, www.EHCD.com) or to North Charleston, South Carolina (Dr. Allan Lieberman) and then returned home to continue saunas for life.

Dr. William Rea, medical director of the Environmental Health Center, Dallas, receives the most difficult to treat cases in the world, cases for which there is no more hope and many of whom are physicians themselves. By now you are getting the idea that whenever you hear a disease is "hopeless", it

merely means no one has looked for the underlying cause, nor have they been committed to getting rid of it. For this is why Dr. Rea's program has been so successful, because he does just that. And sauna is an integral part of it.



Alcoholism is a biochemical disease, not a lack of will power. And curing it requires (1) correcting fatty acids, amino acids, vitamins, minerals, and orphan nutrients, plus (2) removing toxic residues of drugs, alcohol, and other chemicals that damage normal function of brain chemistry responsible for pleasure sensation.

In fact Dr. William J. Rea, medical director of the American Environmental Health Center in Dallas Texas, has treated literally thousands of patients with nearly every diagnosis, incorporating this technique into an all-encompassing environmental medicine program. Because these patients come from all corners of the world, are desperately ill and have all exhausted everything that modern medicine has to offer, getting rid of their underlying chemicals is crucial to their healing. In fact when physicians knowledgeable in

finding the causes of disease are totally stumped and do not know what else to do for seriously ill patients, they often send folks (and themselves) to this unique center.

These people are so full of chemicals and their detoxication pathways are so damaged, that often they will need one or more months of detoxication saunas at the unit to be followed by months and years of saunas at home.

In one study by Dr. Rea, 210 patients with a variety of symptoms did only one or two 40-minute sessions a day for one month (Rea). Even a program this short with people for whom medicine had nothing more to offer yielded impressive results. Within one month 63% measurably decreased their levels of toxic chemicals and 31% improved their symptoms. Clearly, sauna is the only proven method for depurating a lifetime burden of xenobiotics producing "incurable" symptoms.

As lifesaving as sauna programs are however, there was a problem with saunas. Not everyone could tolerate them. In fact I was one who could not even spend five minutes in a sauna. For starters, as you have learned, the nervous system is one of the most commonly damaged areas of the body. Many of us just plain had broken, poisoned, thermostats and could not tolerate high heat.

I sprayed herbicides (atrazine) on our farm and my autonomic nervous system became damaged. For decades, whenever I got overheated, I would never sweat, but just remained bone dry and beet red. If I tried to go in a sauna I couldn't stand it even five minutes, feeling like I would go crazy. Many people experience this because of a damaged autonomic nervous

system, especially those with multiple chemical sensitivities, chronic fatigue, MS, and fibromyalgia.

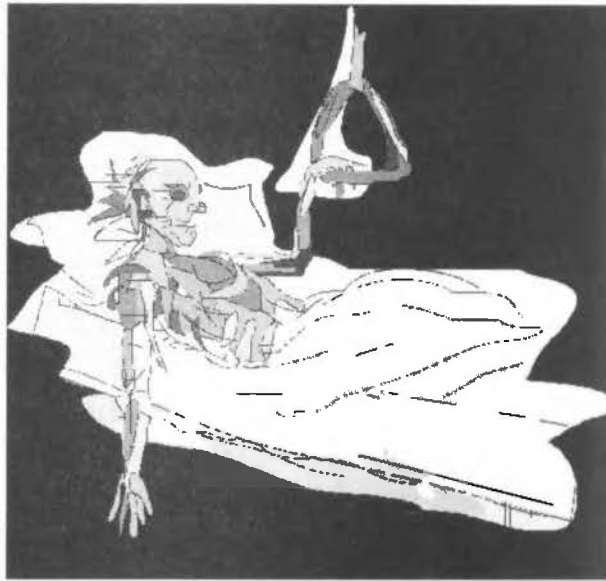
And then there are heart patients who are notoriously intolerant of heat. The newspapers predictably report on the numbers of heart patients who die whenever there is a heat wave. Consequently, heart patients and especially those in congestive heart failure would be the last people on earth you would want to put in a sauna. So what do you do when the worse the poisoning, the less chance you have of tolerating a regular high heat sauna?

The Superior Sauna --FIRS (Far Infrared Sauna)

What is the best way to get rid of toxic chemicals including pesticides, heavy metals and hydrocarbon residues when you cannot tolerate a sauna? When a sauna makes you feel weak, sick, have a fast heart rate, faint, dizzy, panicky, headachy or just plain miserable, what is the solution? The **far infrared sauna**. Thanks to improved technology, the far infrared sauna is far safer and infinitely more tolerable, because it uses a heat energy that penetrates tissues, triggering mobilization of chemicals from subcutaneous fat storage, directly into the sweat. This activating penetration allows for a much lower overall temperature to be used (as I'll show you later), one that is enjoyable and not torture.

But more important, you haven't forced the body to bear very high temperatures (160 degrees and higher), pulling chemicals back into the bloodstream where they can duplicate original symptoms. Instead they slip out the back door, so to speak, from just under the skin storage directly into the sweat. Over weeks and months there is an equilibration, where chemicals that were stored in other organs slowly and safely

disseminate throughout the body and eventually empty into subcutaneous fat. It is the chemical load that is stored beneath the skin that is the main area activated by the far infrared sauna.



Even if you are on your deathbed, it is not too late to turn the tide of disease. Many others have (Nussbaum, Rogers).

Another thing I always worried about in a conventional sauna, even for the few brief moments I could stand one, was the fact that my eyeballs burned so much. I couldn't believe that intensive heat on my corneas was good for them and feared triggering cataracts. To my knowledge, no studies have ever been done on this, but this high temperature on the eyeball and lens cannot be good for them. It's unphysiologic. Anyway, I do not get that type of eye pain in the infrared sauna, only profuse sweating. And that is just the effect you want in order to release a lifetime of toxins from body storage.

The body gets rid of stored chemicals in stool, urine or sweat. The sweat route requires no drugs and is the most efficient and natural (man used to physically work and sweat before computers were invented). As the oldest of eight children, I used to hesitate to recommend something as expensive as a home sauna. I was looking for treatments that were natural, but inexpensive and definitely not high tech! But when you realize the lifelong incapacity and expense of diseases such as chronic pain syndromes, heart disease, chemical sensitivity, chronic fatigue, fibromyalgia, migraines, Alzheimer's, cancer or any others caused by chemical toxicity, a sauna is cheap. Let's face it: *high-tech pollution requires high-tech solutions.*



If you're overwhelmed by medical bills with no end in sight, it's time to consider reversing the hidden causes of your diseases.

(1) Just add up the time and money you wasted getting diagnosed. (2) Or add up the cost for a year of prescription medications and you will have paid for it. But its advantages do not end there. (3) Once you have it, it's yours to use

forever, for the world will never run out of ways to poison us. (4) The whole family can use it. (5) It is not only capable of providing the primary “cure” or solution for your current medical problem, but can free you from symptom-producing medications. Since we are continually being bombarded by new chemicals every day, it is a tool to keep you “cleaned out” for life. It is a win-win situation.

I’m convinced that the far infrared sauna is something that everyone should do to restore health, and then continue to do on a less frequent basis to maintain the “cleaned out” state for the rest of their lives. It's therapeutic as well as prophylactic.

The Hot Solution for Body Pollution: FIRS

How can we bring aging and illness to a screeching halt? Better yet, how can we turn back the hands of time? By booting those nasty disease-causing chemicals out of the body. Sweat out the poisons is the answer, but not any old sauna or sweating program will do, in fact some are dangerous.

FIRS, the Only Sauna Proven Safe For Elderly, Severe End-Stage Heart Patients

Many people who are sick, like heart patients, would never tolerate the extreme temperatures of regular saunas. In fact it would make them worse, raising blood pressure and heart rate, while triggering arrhythmias and shortness of breath. Clearly heat is contraindicated. Imagine a man with cadmium-induced arthritis and hypertension, or a woman with mercury-induced shoulder pain and angina, or toluene-

induced migraines and arrhythmia. When, environmental chemicals create pain in addition to cardiovascular disease, as examples, what is the heart patient to do?

If you are like most people, you may have never learned much about the diagnosis of CHF or congestive heart failure. Yet it attacks more people each year than cancer, and it is as lethal as cancer. For with the diagnosis of cancer, the median survival (different cancers have their own survival rates, but if you average them all together) is 6 years. With CHF, the median survival is less: 5 years. When the diagnosis of cancer is made, folks feel imminent doom and urgency. But with CHF, it has received such scant press that it merely engenders a "So what?" response. It fosters no doom and gloom urgency.

In fact, even though congestive heart failure is more prevalent and more lethal than cancer, folks know so little about CHF that they do not concern themselves with preventing it the way they do cancer. CHF starts with any heart symptom you can imagine. High blood pressure, high cholesterol, angina, arrhythmias like atrial fibrillation, dyspnea (shortness of breath, beginning with the stairs and inclines), claudication (leg pains when walking), pedal edema (ankle swelling), pericarditis, cardio-myopathy (heavy metal or other poisoning of heart muscle), fluid in the lungs, recurrent pneumonias, bypass surgery (putting new coronary vessels in) or endarterectomy (roto-rooting or reaming out the old plugged arteries) can be the beginning that insidiously leads to congestive heart failure. The most common symptom is shortness of breath, especially on stairs, inclines, or while doing repeated deep knee bends, or jogging. An even worse sign is the swelling of ankles at the end of the day, indicating

a heart so overloaded that fluid backs-up all the way to the leg vessels.



Unless you get rid of stored trash, it eventually causes disease and death. You have complete control. Is that heart disease really cadmium toxicity in disguise?

As with every illness, in "modern medicine" CHF suddenly becomes a deficiency of a multitude of heart drugs. Drugs to control the rhythm, like calcium channel blockers (proven to cause shrinkage of the brain and loss of mental function as well as increase the risk of heart attack and cancer). And ACE inhibitors are often prescribed, known to cause bronchitis (chronic cough). Digitalis-type drugs like Lanoxin to boost the force of contraction, and diuretics or fluid pills to decrease the swelling and work of the heart (and known to cause worsening of high blood pressure and the chance of sudden death by heart attack) are some of the other drugs added to the brew.

And the list does not stop there, for the CHF patient has more drugs on board than most other diseases. Meanwhile the real underlying causes, which can be totally correctable, go consistently ignored by medicine. And once a congestive heart failure victim starts accumulating drugs, it is extremely rare if any drugs are withdrawn. Instead his physicians steadily pile on more to keep pace with his worsening symptoms.

The Heart as Allergic Target Organ

The number of drugs should tell you that medicine doesn't have a clue as to what the true underlying cause is for CHF. But you know. It is anything that can poison the heart; mercury from dental amalgams, fish and paints; cadmium from auto exhaust, cigarette smoke (including secondhand from others), shellfish, incinerator pollution, and industrial pollution in air, food and water. You cannot escape heavy metals or other environmental pollutants. Yet even though these toxic elements have been a recognized cause of high blood pressure and heart failure for decades, they remain ignored by medicine.

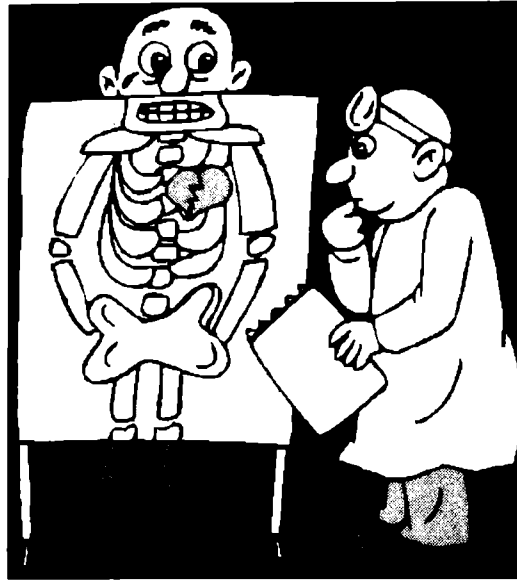
What else can silently poison hearts? You guessed it, herbicides and pesticides, which are also hidden in our air, food and water. **No one is protected, while not one toxin is suspected.** And the causes of heart disease do not end there. They include hydrocarbons and other environmental pollutants or toxins, from trichloroethylene in city water supplies, solvent extraction fluids used to decaffeinate coffee, toluene in painted rooms, formaldehyde in carpets, and benzene in air fresheners, to good old diesel and other common pollutants in vehicle exhaust (EPA, Bond, Theriault,

Levine, Atkins, Kesteloot, Alexander, Goldsmith, Myerson, Asokan, Williams, Mee, McLeod, Wiseman, Wright, Speizer, Antti-Poika, Edling, Kobayaski, Ludomirsky, Sharp, Schroeder).

You might be tempted to fall for the story that there is no way to get all these poisons out of the heart, but you are much too smart for that by now. The far infrared sauna (FIRS) has been proven by specialists at the famed Mayo Clinic to improve heart failure, even when nothing more could be done by medicine. And in Japan, clinicians and researchers have confirmed its life-saving properties when nothing else could be done (Tei, Kihara, Imamura).

But not any old sauna was effective, for example, the regular or dry Finnish saunas actually triggered worsening of arrhythmias, increased hypertension and shortness of breath (even at rest), and most heart patients could not tolerate them. In fact, some of these heart failure patients could not even tolerate a hot bath or a hot day out of doors without drawing closer to death.

As an example of how little an increase in ambient temperature heart patients can tolerate, a July 7, 2000 *Wall Street Journal* front-page article reported that in Europe as temperatures reached 113 F. from a high-pressure system trapping drifting Sahara air masses, 25 people died. Later that month on July 14th, CNN reported multiple deaths for heart patients as temperatures in Texas lingered between 105 and 110 F. Clearly a regular sauna of over 140°F would be out of the question for the heart patient.



When the heart is broken, you need to identify and correct nutrient deficiencies, then safely get rid of the toxins that poisoned the heart muscle and its nerves.

But hang onto your hats, for the far infrared sauna (FIRS) was not only very well tolerated with no adverse reactions, but it got rid of so many of the underlying chemical triggers of CHF, that these end-stage heart patients actually reversed and improved and were able to discard some of their medications (Tei, Kihar, Imamura)! This is unheard of. With CHF, the rule in medicine is you increasingly pile on medications as you deteriorate. You rarely drop any, for there is no hope of cure. It is a one-way street ---- at least it is if you do not do a FIRS. Currently they are evaluating cutting out a part of the damaged heart muscle (ablation) as temporary improvement for heart failure! As usual, when drugs fail, medicine resorts to cutting it out and throwing it away. They figured they do it with cancers, colitis and other problems, so why not the heart?

How is the Far Infrared Sauna Different?

Let's look at the energy that comes from the sun. It is responsible for photosynthesis, the process by which plants make energy to grow. In essence, solar energy is responsible for all of life (since animals must have plants to eat or there are no animals).

The spectrum of energy from the sun is classified according to the length of the waves. The shortest (and most damaging) rays of the solar spectrum are *gamma rays*. Think of a gamma gun in a sci-fi movie that vaporizes assailants in an instant. The next longer rays of the sun are *x-rays* (carcinogenic), then *ultraviolet* (causes sunburn, corneal and lens damage and skin cancer), and then *visible light*. After that is the *infrared* spectrum, then radio waves.

At the far end of the infrared spectrum are the longest and most healing rays, the *far infrared* (FIR) spectrum, spanning from 1,000 to 4 microns. Between 4-14 microns in the FIR (far infrared) spectrum, fall most of the rays that are the safest and most vital to health and healing. They are responsible for photosynthesis, without which there would be no life on earth.

Even our bodies radiate infrared energy through our skin between 3-50 microns, mostly around 9.4 microns. This is the basis for infrared glasses allowing Special Forces to see the enemy at night. Palm healing and other hands-on therapies are based on the healing properties of natural far infrared rays, with our palms emitting infrared energy at between 8-14 microns. Our bodies absorb 93% of the infrared waves presented to us, the basis for similar heaters being used to warm premature infants in nurseries.

The FIRS uses a patented zirconium ceramic infrared heater, emitting between 2 and 25 microns, with a third of the output in the 2-5.6 micron range for deepest penetration, about 1.5 inches. Patented in 1965, it was used predominantly in Japan, and then use extended to the U.S. since 1981. Safer, more economical to operate, lower in EMF, and inducing 2-3 times the sweat volume, while allowing a much more tolerable and safer operating temperature, makes it my preferred tool for purifying and detoxifying the body. Naturally nothing stands alone, and a clean diet, environment and soul are, of course, crucial components to healing the impossible. I'll take you through more of the "TOTAL LOAD" later.



Far infrared rays are the healing, safe rays of the sun's spectrum, responsible for photosynthesis. Without this wavelength, plants would be unable to make energy, and consequently, there would be no life on earth.

Far infrared wavelengths have other beneficial properties. They lower lactic acid (the acid that accumulates and causes pain in muscles when you have overdone during exercising),

stimulate endorphins or happy hormones of the brain, and kill organisms like bacteria and parasites. More important, they penetrate tissues, detoxify cells by vibrating ionic bonds, stop swelling, improve lymphatic flow and blood circulation, and attract calcium to cell membranes where it is needed for healing.

Far infrared wavelengths also decrease the size of water clusters, giving them greater mobility and penetration in and out of body tissues. For it is when these hyperactive or energized water molecules move in and out of cells that they also carry toxins that previously were stuck. FIR energy actually causes a resonance dance between the water and chemical molecules to mobilize and unite them.

The lungs, urine, stool, and sweat are the main vehicles the body has for getting rid of nasty chemicals. But by far sweat is the most efficacious. And Mayo Clinic studies show that FIR is the safest way to induce healing sweat, using the most heat-sensitive cardiac patients as proof (Tei).

In studies published in *Circulation* and the *Journal of Cardiology*, both respected cardiology journals, physicians at the famed Mayo Clinic used the worst classification of congestive heart failure patients to demonstrate the safety and therapeutic value of the far infrared sauna. The New York Heart Association (NYHA) classifies the most debilitated heart patients with the highest numbers, III and IV. The study used patients who were end-stage heart patients who were maximally medicated and unable to walk across the room without shortness of breath, and unable to tolerate warm baths, much less tolerate a sauna. There were no further

therapeutic options available. They had reached the end of their ropes.

But not only did these serious end-stage heart patients all tolerate the FIR sauna, but they had no side effects from it. Furthermore, in getting rid of chemicals that were the underlying causes of their diseases, they improved their heart function, something that the latest in surgery or drugs was powerless to do for them. The FIR sauna literally saved their lives.

During the sauna, no patients had dyspnea (shortness of breath), angina (chest pain) or arrhythmia (irregular heartbeat), nor complained of excess heat. There were *no side effects*, something that never happens with drugs and surgery. Diastolic blood pressure (the low number) decreased but systolic pressure (the top number) was unchanged. This means they did not get hypertensive, and in fact the work of the heart was lessened. Furthermore the stroke volume and ejection fraction increased, meaning the heart beat more efficiently with less effort.

Contrast this with warm baths that caused an increase in systemic blood pressure and pulmonary vascular resistance. Warm baths, by raising blood pressure cause more work for an already failing heart. **And in a regular sauna, the arrhythmias increased 20%, whereas in the FIR sauna, arrhythmias decreased or disappeared entirely.** Other cardiovascular improvements unique to the FIR sauna that would impress cardiologists include decreased pulmonary arterial and capillary wedge pressure as well as right atrial pressure, and in some cases disappearance of mitral regurgitation. The ECHO (echocardiogram) showed smaller

left ventricular and left atrial dimensions, and epinephrine levels did not change, but norepinephrine increased. And FIR actually increased the core and intrapulmonary arterial temperature to 38.2 ± 0.4 C (normal body temperature is 37 degrees Centigrade).



Fifty percent of heart attack victims do not have high cholesterol. They need to get trans fatty acids and toxins out of the heart.

Because the far infrared sauna has so many physiologic benefits that improved cellular detoxification (without making the rest of the body toxic or sick in the process), **no side effects** were observed with the FIR sauna, even at 60 C. (140 F.). Meanwhile, recall warm baths adversely increased cardiac work for heart patients, as did regular high heat saunas which triggered arrhythmias in over 20% of patients at 90 C. (194 F.). In fact, even mere high outdoor ambient temperature can kill the heart patient. In contrast, with the FIR sauna, arrhythmias disappeared, even when these folks were exposed to the high end of heat that the FIR sauna can

reach. But the FIRS can generate a total sweat at 120 F. and less, providing the opportunity for even longer and more tolerable therapeutic time in the sauna.

In regular high heat saunas, plasma norepinephrine (related to adrenaline) increased 100-160% accompanied by subjective discomfort and intolerance. Adrenaline can, of course, trigger arrhythmias or a heart attack. In contrast, FIR sauna was extremely well tolerated and did the impossible. It improved the cardiac status of folks who were at the end of their therapeutic ropes. Even though medicine had nothing more to offer, congestive heart failure was reversed by the far infrared sauna.

FIRS Cures the Most Mysterious Cases

The bottom line is that folks with the most severe forms of heart disease and resistant to all medications, tolerated the FIRS with no side effects. Most importantly, it improved their heart health in this Mayo Clinic study within 3 *short weeks*. Of course, it is recommended to continue longer, say a year of daily or every other day saunas for an hour or less to more completely lower stored chemicals that cause disease. Then it is necessary to do them at least once a week for life, since the world will never run out of ways to poison us.

It should not surprise you by now that mysterious joint pain in war veterans exposed to Agent Orange also disappeared, as did a host of other pain syndromes. Schnare of the U.S. EPA (Environmental Protection Agency) also showed that not only did sauna reduce body levels of HCB (hexachlorobenzene) and PCBs (polychlorinated biphenyls) in electrical workers,

for example, but it did this even though the men were continually exposed at work.

This is important because it means that if your livelihood depends on an occupation with continual exposures, you still have a chance of being able to tolerate it more safely, as long as you are reducing the chemicals faster than you are tanking up on them. And let's face it. Most occupations have their specific toxins. Also this could allow tolerance of poorly tolerated implanted items that we would like to keep, like root canals and artificial joints.

Schnare also reviewed different types of workers, drug users, victims of accidental ingestions, and those poisoned by a variety of environmental chemicals; all recovered with sauna detoxification. Meanwhile, scientists from the Tokyo Medical and Dental University and others explained in further studies, once more how the FIR is superior to just plain old heat of regular saunas. There is no lack of data on this subject that has remained a *secret cure* for decades.

There are a few places that sell the far infrared sauna, but the only one I know of that makes them of poplar wood for chemically sensitive folks is High Tech Health of Boulder, Colorado (1-800-794-5355). You see, the terpenes of cedar smell great, but saunas were originally made from cedar because it was native to Sweden. And because Swedes often had their saunas outside as a separate building, they wanted them bug-proof and mold-proof, a necessity when perpetually creating steam by pouring water on the hot rocks. But for an in-home unit that has no steam coupled with the need to avoid terpenes, poplar is ideal. Furthermore, there are lower electromagnetic fields (EMF) generated in a FIR

sauna than in a conventional electrically heated one. This is important because it reduces the chance of becoming EMF sensitive.

In addition, some saunas are a combination of far infrared along with regular sauna heaters. This is self-defeating for heart patients. They need just the far infrared, for they cannot tolerate any extra heat. Likewise for highly poisoned people, they do not need auxiliary heat forcing chemicals out of storage into the bloodstream to duplicate symptoms. They just need the far infrared technology to pull chemicals out of subcutaneous fat storage directly into the sweat. Furthermore, being the oldest of eight children from a poor family, I'm much like a mother hen. I needed a supplier with whom I could trust my precious patients and readers.



Do not let a lack of diagnostic label or "mysterious" illness keep you from getting the toxins out. That's when you need to do this the most. Do not wait too long, for the longer you do, the more you damage other parts of chemistry.

Sweating is a God-given mechanism, but it must be done properly and safely to be successful. The far infrared sauna is something that you will use for a lifetime. It is a *major tool* not only in your *detox program*, but also in your *anti-aging program*. Because it is a major expense, you might want to figure a way to put it in a garage, basement, game room, patio, lanai or porch to share it with neighbors, or have your church, physician, chiropractor, or organization buy one, for example. There are smaller units that could fit into a corner of a room. These units plug into a standard electric outlet.

At the end of this chapter you'll find a letter for your insurance company, for they could save untold dollars by covering the cost of a far infrared sauna that not only treats the whole family, but treats the family forever. And it can do what no medication can do, reverse disease. Clearly the evidence bears out the facts: FIRS will save untold lives and dollars.

Solar waves or energy

- Gamma, shortest rays, most destructive to life
- X-rays = penetrate tissues, carcinogenic,
- Ultraviolet = sunburn, corneal and lens damage
- Visual wavelength
- Infrared: contains at the lowest end of spectrum, far infrared (FIR); Far infrared = lowest = 1000-5.6 microns; the rays most vital to healing are 4-14 microns, also are the majority of sun energy or photons (safest and most beneficial) responsible for photosynthesis; lowers lactic acid, stimulates brain, kills organisms, penetrates tissues, stops swelling, improves lymphatic flow, attracts calcium to cell membranes; detoxifies by vibrating ionic bonds and reducing the size of water clusters; by creating a resonance dance between water and chemical molecules, it facilitates water in moving stored toxins out of the cell and into sweat.
- Short wave radio waves
- Broadcast radio wavelength

Far infrared (or FIR) saunas vs. dry

- 72 F. room temp
- 98.6 F. body temp
- 100.4 F. FIR body core temp at 140 F.
- 105.8 F. Jacuzzi
- 100-150 F. FIR sauna
- 160-220 F. dry & Finnish saunas
- 212 F. boiling water!

Centigrade-Fahrenheit Conversion Chart

Degrees Centigrade = $5/9$ (Fahrenheit - 32)

Degrees Fahrenheit = $9/5$ (Centigrade + 32)

<u>Centigrade</u>	<u>Fahrenheit</u>
0	32
5	41
10	50
15	59
20	68
25	77
30	86
35	95
40	104
45	113
50	122
55	131
60	140
65	149
70	158
75	167
80	176
85	185
90	194
95	203
100	212

Where is Your Focus?

No matter what disease you look at, from the most seemingly innocent to the nastiest symptoms, environmental chemicals are at the base. Look at endometriosis. It is not a killer, you rarely hear about it, but it has a devastating effect on millions of women in the United States. It affects 15% of women in the reproductive age range and is increasing each year. It leads to extensive and expensive problems with infertility as well as

loss of much productive work time, not to mention loss of personal time because of severe pain and/or abnormal bleeding.

Even worse, endometriosis often cripples women to the point of forcing them to have a hysterectomy in their early 20s, before they have had a chance to marry and have a family. Or they are put on drugs like Lupron, which is analogous to a chemical castration and may contribute to irreversible infertility, chemical sensitivity, or cancer later on.

Did you know that dioxins are one of many causes of endometriosis? Totally unavoidable in the 21st century lifestyle and diet, dioxins are even in everything from our foods and toilet paper to coffee filters, diapers, tampons, and much more (Birnbaum). Since they are persistent environmental poisons, they never leave the soil or water permanently, but cycle through rain, plants, animals, and into our food and bodies. The only way out is through sweat.

Remember the EPA study where 29% of folks had high levels of trichloroethylene in their exhaled breath? This can come from wearing a dry cleaned suit, and it out-gases from carpeting, cardboard and a multitude of other everyday sources. It is not exotic. It is in the water supply of many municipalities as an industrial contaminant. It can cause bizarre numbness and tingling, dizziness, inability to concentrate, headaches, depression and brain fog. And that's just in the brain. In terms of cancer, it has been associated with kidney cancer, liver cancer, Hodgkin's disease and non-Hodgkin's lymphoma as well as cervical cancer, leukemia, and esophageal cancer (Wartenberg). And it can cause cardiac arrhythmia, endometriosis, and much more.

Clearly our most potent environments are in our homes, but we are not safe regardless of where we go. Most work environments add even more to the total daily body burden. And depending upon meteorologic conditions, cloud cover, wind velocity, temperature and other factors, outdoor air pollution definitely fluctuates causing increased death by heart attack (Janssen, Zanobetti, Laden, Wong).

In our outdoor as well as indoor air, we have the heavy metal, lead, as one of hundreds of contaminants that is rarely looked for. It causes devastating effects from lowering children's IQ (Schwartz 1994) to loss of hearing (Schwartz 1991). But if that were not enough, the level that causes brain damage in children is lower than 10 mcg/dl, which has been designated by "authorities" to be the cutoff point for diagnosing whether lead is a problem (Lanphear). Because this arbitrary cutoff has been inappropriately assigned, to too low a value, regular testing often will not pick up a lead level less than 10. The only way brain-damaging lead in the body can be found is with the same provocation test we used for mercury. But instead of asking for mercury to be analyzed in the urine, the doctor should order lead.

But where are the physicians who are doing lead and other heavy metal provocations for children whose IQ's do not match their parents'? I can't tell you the number of times I see children who are not half as smart as their parents, but no one is curious about why they are not. Where are the physicians who are looking for environmental triggers for hearing loss, endometriosis, high blood pressure, heart disease, disparate I.Q. or cancer? We have a true information warp. We're focused on drugs, surgery, organ transplants and genetic manipulation, when we should be focused on merely getting

the causative chemicals out. Or as they say, GET THE LEAD OUT!

The bottom line is that sweat is the only proven method for getting the most damaging toxins out of the body. There are no drugs, no surgery, no chelation, nor other detoxification methods with before and after measurements proving that unwanted chemicals like PCBs and pesticides were eliminated. Regular saunas have a disadvantage of generally starting well above 160 F. degrees, and could be damaging to the eye lens and other delicate tissues. But far infrared technology is safe enough for elderly end-stage heart patients, because you do not even have to go above 100 F. degrees. It makes no sense to push the body to unphysiologic temperatures or to make someone who is already sick even more uncomfortable.



Let's face it. You and your doctor have been screwed into believing every symptom is a deficiency of some drug or surgery. You've been led to believe you have no control, when in truth you're the one who must take control.

The ailing heart for example, is the result of a lifetime of tanking up on heavy metals like cadmium, mercury, lead, aluminum, in addition to chemicals like the plasticizers, PCBs, volatile organic hydrocarbons, pesticides, dioxins, and more. The heart truly is a toxic target organ. No wonder it is the number one cause of death and disease. When there are only two causes for disease (diet and environment), it's imperative that we be able to reverse both of these. And we can!

Far infrared sauna technology is the only proven, most efficacious way of getting rid of stored environmental chemicals. Preferably start with an oil change to get rid of trans fatty acids, and restore missing fatty acids while correcting mineral deficiencies, like selenium, manganese, zinc and magnesium, to facilitate safer detoxification. The formula is really quite simple. The problem is it doesn't make any money for the drug industry that owns medicine. In fact the *Journal of the American Medical Association (JAMA 287: 6 12-6 17, 2002)* documented how over 87% of physicians who make up the panels of "experts" who determine the *practice guidelines* for medicine receive compensation from the drug industry. These are the guidelines that your doctors and insurance companies follow.

Meanwhile, the ball is in your court. For those who want to get well, let's go to the next chapter where you will learn how to orchestrate wellness.



You have the knowledge and the facts. The ball is in your court. How are you going to play it?

The following is a sample letter that could be used for your insurance carrier to provide the evidence that might persuade them to reimburse you, at least in part, for your far infrared sauna. Be sure to put the date at the top and your name at the closing and include the references.

Dear Insurance Carrier,

I am writing this to provide you with the evidence to help you understand why you will benefit me and your company by covering a far infrared sauna as a legitimate therapeutic medical expense for helping treat my

- 1) Researchers from Columbia School of Public Health in New York report that 95% of cancer is caused by diet and environment (Perera).
- 2) Likewise thousands of scientific papers and books document how environmental chemicals obtained through our air, food, and water can

trigger every disease known to man and even the serious "undiagnosable", "untreatable" diseases which have no label (Kaloyanova, EPA, Arlien-Soborg, Repetto, Casarett, Sullivan).

3) And the mechanisms of how unavoidable environmental chemicals cause disease are well-described (Schook, Halliwell, Halsted, Liebman, Bemis, Steventon, Betarbet, Brucker, Kohn, Piscator, Baldi, Arnold, Howdeshell, Colburn, Wiseman, Wartenberg, Birnbaum, Siblingrud, Bigazzi, Packer).

4) Further research shows that environmental pollutants are so ubiquitous that there's no place on earth to escape them, not even polar ice caps. Even the breast milk of nursing Arctic women has been found to be dangerously high in, for starters, PCBs and mercury (Muckle, Perskey, Abe, Grandjean, Weisglas-Kuperus).

5) Furthermore, EPA studies of breath analyses of New Jersey residents show 93% harbor perchloroethylene in their bodies, 89% had benzene (a known cause of leukemia), and 29% were exhaling carcinogenic trichloroethylene, in addition to numerous other carcinogens (Wallace). In fact there are no longer any oceans, seas, lakes, rivers, animals in the wild nor humans on the face of the earth that do not harbor detectable levels of potent carcinogens and other disease-producing environmental chemicals (U.S. EPA 1984, 1987, Rogers).

6) The government's EPA studies of hundreds of Americans have shown 100% of fat human biopsies reveal **styrene, dioxin, xylene, dichlorobenzene** and more (U.S. EPA, 1984, 1987). Most of these are carcinogens and can mimic any symptoms imaginable.

7) As well, the EPA and other researchers have been startled by the amounts of phthalates or plasticizers in humans that are potent environmental hormone disruptors, again mimicking a multitude of endocrine diseases as well as triggering cancers (Blount, Jones, Raloff).

8) Whether one studies heavy metals, pesticides, PCBs, dioxins, volatile organic hydrocarbons or other xenobiotics, research studies and toxicology textbooks confirm that these very same chemicals can produce any disease from cardiac disease, autoimmune, recurrent infections, allergies, and cancer, to endocrine and neurologic diseases, congenital

defects, low I.Q., thyroiditis, and every disease of every organ and system in between (Steingraber, Colburn, Baker, Pavia, Colon, Rea, Ashford, Gupta, Osius, Waalkes, Kipling, Visser, Hoyer, Peters, U.S. Department Health Human Services, Lieberman, U.S. EPA, 1983, Pelletier, Solonen 1995, 2000, Crinnion, Sood, Sug, Enestrom, Fredericsson, Rier, Echeverria, Jobling, Schantz, Rogers).

9) When clinicians have been stumped or they have exhausted all that medicine has to offer, with their backs against the wall, they *reversed recalcitrant medical conditions* by getting these unavoidably ubiquitous chemicals out of the body. From drug addicts to firefighters, from high blood pressure to congestive heart failure, from undiagnosable neurologic problems and cognitive deficits to chemical sensitivities, the formula has been the same: get rid of the underlying environmental chemical causes that have stockpiled over a lifetime (Kilburn, Rea, Schnare 1984, 1986, Root, Roehm, Tretjak, Hubbard, Tei, Ikeda, Imamura).

10) Unfortunately, the *modus operandi* in medicine is to find a drug to turn off the damaged part that is producing symptoms. A simple, example is the prescription of calcium channel blockers, the number one drug used by cardiologists for angina, hypertension, congestive heart failure, or arrhythmia. But as with any drug, this does not fix anything that is broken. It merely poisons normal physiologic pathways, thereby forcing the chemistry in a direction that attenuates symptoms.

Since nothing has been done in terms getting rid of the underlying cause, the disease continues. In addition the missing fatty acids and minerals in the cell membranes that house the calcium channels are not identified and repaired. Nor are the sequestered membrane chemicals that caused the damage, like unavoidable PCBs and mercury, gotten rid of (Bemis). If this were not enough perpetuation and acceleration of damage, the side effects of drugs are not innocuous. For example, calcium channel blockers have been shown by MRI to cause definitive shrinkage of the brain and loss of brain function, a side effect rarely mentioned by clinicians or news media (Heckbert, Havlik).

11) Far more therapeutic and ethical is the far infrared sauna therapy as reported by Mayo Clinic researchers where they reversed hypertension, pulmonary wedge pressure, endothelial (arterial) dysfunction, and congestive heart failure (Tei, Ikeda, Imamura). This is particularly

impressive since these patients had exhausted all that medicine had to offer. And clearly they are not candidates for a regular sauna, as even high temperature heat waves increase their death rates.

12) But it should not come as a shock that this type of information is ignored, since studies in the *Journal of the American Medical Association* document how the practice guidelines for American medicine are made by physicians who receive compensation from the drug industry (Choudhry, JAMA 2002; 287: 612-617). In addition so is the FDA, the very government regulatory body that approves drugs, riddled with advisers with financial ties to (and is heavily lobbied by) the very drug industry that is seeking its approval (Cauchon, Cohen, Epstein, Haley, Glenmullen, Breggin, Stelfox). And as the *New England Journal of Medicine* and *Journal of the American Medical Association* warn, even the hired clinical investigators for new drugs may have their price (Bodenheimer, Chalmers, Freidberg, Angell).

13) Let's return to congestive heart failure as our continuing example of a dead-end disease, since it kills more people in each year than cancer. The average person only lives five years once the diagnosis of congestive heart failure is made and is usually on well over \$600 a month in medications alone, not to mention frequent doctor visits, x-rays, blood tests, and hospitalizations. There is literally nothing in medicine that reverses the process of congestive heart failure once it has started. Instead, progressively more medications are piled on, making the average survival less than cancer. Median survival for cancer is six years; median survival for congestive heart failure is five years. Furthermore more people get congestive heart failure each year than get cancer.

Contrast this bleak prognosis for congestive heart failure with the Mayo Clinic studies where pulmonary wedge pressure, shortness of breath, ability to discontinue medications and many other parameters of congestive heart failure improved with use of the far infrared sauna. In other words, *it accomplished what no medication and no surgery could for a disease that is worse than cancer.*

Obviously not any old sauna will do, because high heat is contraindicated and poorly tolerated by heart failure patients, and in fact is a cause of early death, as newspaper reports during heat waves testify. But because far infrared sauna provides safe, low temperature depuration through sweat of the very heavy metals, pesticides, dioxins, PCBs, plasticizers, and other

environmental chemicals that caused the heart damage in the first place, it is successful. And in contrast to drugs, it has no side effects.

The far infrared sauna pulls otherwise permanent toxins out of the body by causing a molecular dance with molecules of water and xenobiotics stored in the surface fat. In this way it does not drag chemicals out of safe storage and into the bloodstream where they could cause exacerbation of symptoms. Instead, it causes a resonance between the water and chemical molecules, enabling topical excretion via sweat where they can be wiped and showered away forever (Inoue). This is the only known and proven mechanism for getting rid of the vast diverse array of disease-producing toxins/environmental chemicals. Medicine has no other option for lowering the body burden of chemicals that underlie all disease.

In the Mayo Clinic studies, the far infrared sauna accomplished what nothing else in medicine could. No surgery, no drug is available to give this type of therapeutic result. Likewise, other studies with other xenobiotics, other occupations, other medical conditions which were also totally resistant to all that medicine had to offer were improved once the chemicals were depurated. In addition, the whole family can use the far infrared sauna and they can use it forever. For as research and history both testify, the world will never run out of ways of poisoning us.

14) In terms of expense, depending upon size, the cost is only a couple of thousand dollars. Insurance companies allow \$100,000 for chemotherapy, radiation, bone marrow transplants, tests and hospitalizations for the treatment of various types of cancer, for which they know the median survival will be six months to five years at best. Paying \$100,000 for no cure is not cost-effective. They allow \$1000 a month for a rheumatoid arthritis drug that works by lowering the tumor necrosis factor (Enbrel), thereby increasing the chance of cancer. And they cover biological response modifiers at \$10,000 per injection that often only buy the patient 2-3 months of life. Again, thousands of dollars with no cure.

In contrast, with the far infrared sauna we are talking about reversing disease, getting rid of the underlying causes and therefore getting rid of the symptoms, once and for all. We are talking about restoring the body to a level of chemicals it had maybe 20-50 years ago. A life sentence to medications that block physiologic pathways is avoided. And bear in mind that since medications do not fix anything, they allow the

underlying problem to continue uncorrected and actually accelerate. Meanwhile, new symptoms and new seemingly unrelated diseases are the inevitable consequence of this biochemical *faux pas*.

15) Furthermore, drug side effects are the leading cause of death. The *Journal of the American Medical Association* shows that far in excess of 106,000 people die per year in hospitals from **diagnosed** drug side effects (Lazarou). But as former FDA head Dr. David Kessler has shown in the same journal, less than one percent of adverse medication reactions are reported to the FDA. As other researchers have shown, over 16,000 people die each year just from gastrointestinal hemorrhaging from NSAIDs, while another 100,000 get congestive heart failure from them (Page, Van den Ouweland, Feenstra, Heerdink). As well NSAIDs cause osteoporosis and hip and knee degeneration, necessitating joint replacement (Shield). And these are just some of the side effects of one category of drugs. NSAIDs, as an example of only one group of medications, are fatally toxic to thousands of people each year by damaging joints, lungs, kidneys, eyes, hearts, and intestines. And they are covered by insurance.

No wonder the *Journal of the American Medical Association* study shows that death by prescribed drugs in the hospital is the No.4 cause of death in United States (Lazarou). But that study ignores the hundred thousand people who get congestive heart failure each year just from the NSAIDs (Page, 2000). This would more than double the statistic making recognized drug reactions in hospitalized patients the No. 3 cause of death. And this does not look at death outside of the hospital, nor death's unrecognized as being attributable to drug side effects. As Dr. David Kessler, previous head of the FDA, has reported in the *Journal of the American Medical Association* a maximum of 1-5% of adverse medication effects get reported to the FDA.

On the flip side, sweat is the only proven mechanism that removes heavy metals, PCBs, pesticides, and other foreign chemicals from the body. Nothing else does. The far infrared technology is the only one that allows sweat depuration of xenobiotics at low, safe temperatures, even tolerated by heart patients. That is why the far infrared sauna has been able to accomplish what nothing else in medicine can in terms of reversing the true underlying causes of disease.

16) Sometimes the reason for insurance rejections is that the therapy is not "reasonable and customary". But I should not be penalized for physicians' lack of knowledge. For example, according to the *Journal of the American Medical Association* (June 13, 1990), it is reasonable and customary for 90% of physicians to fail to look for something as rudimentary and life-saving as a magnesium deficiency in over 1033 patients hospitalized for cardiovascular problems. The sad fact is that many of these patients died from myocardial infarction secondary to arrhythmias from their undiagnosed magnesium deficiencies. Instead they were loaded up with many symptom-masking drugs.

It is "reasonable and customary" for over 16,000 patients to die in the hospital each year just from gastrointestinal hemorrhaging secondary to non-steroidal anti-inflammatory drugs. It is "reasonable and customary" for over 100,000 patients to get congestive heart failure each year secondary from non-steroidal anti-inflammatory drugs (Page, 2000). And it is "reasonable and customary" for patients to have \$50,000 of bypass surgery, even though they start re-clotting their new vessels within six months.

And it is "reasonable and customary" for doctors to prescribe Mevacor, Pravachol and other HMG COA reductase inhibitors to lower cholesterol, when many proven and safe nutrients will do the same without the side effects. Meanwhile the cholesterol-lowering drugs inhibit the gene for this enzyme, thereby turning off the body's production of coenzyme Q10 (Willis). This medication-induced coenzyme Q10 deficiency in turn leads to depression, fatigue, mitochondrial dysfunction, high blood pressure, cardiomyopathy, periodontitis, congestive heart failure and more (Tomasetti, Folkers, Judy, Nakamura, Mortensen). But the patient thinks he is getting a bargain at over \$100 a month because his cholesterol level looks good on paper.

Drugs do not cure anything, they merely turn off poisoned and malfunctioning pathways. That is why their classifications are anti-inflammatory, ant-acid, beta-blockers, alpha-blockers, calcium channel blockers, angiotensin inhibitors or ACE inhibitors, HMG COA reductase inhibitors (cholesterol-lowering drugs), selective serotonin reuptake inhibitors or SSRI, etc. And by not fixing the underlying problem, they allow it to worsen as the innocent patient accumulates side effects from the drug as well. And we know why the practice guidelines for every

medical disease make it look as though every symptom is a deficiency of some drug (Choudhry). Arthritis becomes a Celebrex deficiency, heartburn becomes the Prilosec deficiency, and depression becomes a Prozac deficiency. Fortunately there are many heavily referenced books that document the unethical practices of the drug industry in perpetuating the pharmacologic feast for patients, rather than finding and getting rid of the underlying causes (Glenmullen, Berkson, Breggin, 1991, 1998, Moore 1995, 1998, Epstein, Haley, Fagin, Moss, Cohen, Wolfe).

I hope that with this summary (and extra documentation and references) you can appreciate the logical, scientific, cost-effective and moral reasons to cover the far infrared sauna. I have much more data and evidence, should it be necessary to carry this to another level. However, I believe that you will do the right thing the first time.

Most appreciatively,

(Signature)

Insurance references:

Schook LB, Laskin DL, *Xenobiotics and Inflammation*, Academic Press, New York, 1994

Halliwell B, Gutteridge JM, *Free Radicals in Biology and Medicine*, 3rd Ed, Oxford University Press, Oxford and New York, 1999

Halsted CH, Rucker RB, *Nutrition and the Origins of Disease*, Vol. 7, Academic Press, New York, 1987

Steingraber S, *Living Downstream*, Addison-Wesley Publishing, New York, 1997

Colborn T, Dumanoski D, Myers JP, *Our Stolen Future*, Dutton/Penguin, New York, 1996

Berkson, DL, *Hormone Deception*, Contemporary Books, NTC/Contemporary publishing, 4255 West Touhy Ave., Lincolnwood (Chicago) Illinois 60712-1975, 2000

Glenmullen J, *Prozac Backlash*, Simon & Schuster, NY, 2000

Breggin PR, *Talking Back to Ritalin*, (1998), Common Courage Press, P.O. Box 702, Munroe ME 04951

Breggin PR, *Toxic Psychiatry*, 1991, St. Martin's Press, NY

Moore TJ, *Deadly Medicine*, 1995, Simon & Schuster, NY

Epstein SS, *The Politics of Cancer Revisited*, 1998, East Rage Press, Fremont Center, NY

Haley D, *Politics In Healing, The suppression and manipulation of American medicine*, 2000, Potomac Valley Press, Washington D.C.

Fagin D, Lavelle M, Center for Public Integrity, *Toxic Deception. How the chemical industry manipulates science, bends the law, and endangers your health*. 1996, A Birch Lane Press, Carol Publishing, 120 Enterprise Ave., Secaucus NJ 07094

Moss RW, *Questioning Chemotherapy*, Equinox Press, NY, 1995

Moore, TJ *Prescription for Disaster*, Simon & Schuster, NY, 1998

Cohen JS, *Over Dose, The Case Against the Drug Companies*, Tarcher/Penguin/Putnam, NY, 2001

Brucker DF,, Effects of environmental synthetic chemicals on the thyroid function, *Thyroid*, 8:827-56, 1998

Osius N, Karmaus W, Witten J, et al., Exposure to polychlorinated biphenyls and levels of thyroid hormones in children, *Environ Health Persp*, 107: 843-9, 1999

Pavia JM, Paier B, Zaninovich A, et al, Evidence suggesting that cadmium induces a non-thyroidal illness syndrome in the rat, *J Endocrinol* 154: 113-7, 1997

Kohn MC, et al, A mechanistic model of effects of dioxins on thyroid hormones in the rat, *Toxicol Appl Pharmacol*, 165: 29-48, 1996

Wartenberg D, Scott CS, Carcinogenicity of trichloroethylene, *Environ Health Persp*, 110; 1: a13-a14, 2002

Birnbaum LS, Cummings AM, Dioxins and endometriosis: A plausible hypothesis, *Environ Health Persp* 110; 1: 15-21, 2002

Heckbert SR, Longstreth WT, Psaty BM, Murros KE, Smith NL, Newman AB, et al, The association of antihypertensive agents with MRI white matter findings and

with modified Modified Mini-Mental State Examination in older adults, *J Am Geriatrics Soc*, 45; 12:1423-33, December 1997

Havlik RJ, Antihypertensive drugs, brain structure, and cognitive function: more research is necessary, *J Am Geriatrics Soc*, 45; 12: 1529-1531, December 1997

Freidberg M, Saffran B, Stinson TJ, Bennett CL, et al, Evaluation of conflict of interest in economic analysis of new drugs used in oncology, *J Am Med Assoc*, 282; 15:1453-1457, Oct. 20, 1999

Chalmers I, Underreporting research in scientific misconduct, *J Am Med Assoc*, 263; 10:1405-1408, March 9, 1990

Bodenheimer T., Uneasy alliance – Clinical investigators and the pharmaceutical industry, *New Engl J Med* 342: 1539-154, 2000

Angell M, Is academic medicine for sale?, *New Engl J Med*, 342; 20:1516-1518, May 18, 2000

Cauchon D, FDA advisors tied to industry: Approval process riddled with conflicts of interest, *USA Today*, Sept 25, 2000

Ebbesen J, Buajordet I, Sandvik L, et al, Drug-related deaths in a department of internal medicine, *Arch Intern Med* 161: 2317-2323, of Oct. 22, 2001

Page J, Henry D, Consumption of NSAIDs and the development of congestive heart failure in elderly patients -- and unrecognized public health problem, *Arch Intern Med* 160:777-784, 2000

Van den Ouweland FA, Gribnau FW, Meyboom RH, Congestive heart failure due to nonsteroidal anti-inflammatory drugs in the elderly, *Age Aging* 17: 8-16, 1988

Feenstra J, Grobbee DE, Strickner BH. et al, Adverse cardiovascular effects of NSAIDs in patients with congestive heart failure, *Drug Saf*, 17: 166-18, 1997

Heerdink ER, Leufkens HG, Bakker A, et al, NSAIDs associated with increased risk of congestive heart failure in elderly patients taking diuretics, *Arch Intern Med* 158:1108-1112, 1998

Shield MJ, Anti-inflammatory drugs and their effects on cartilage synthesis and renal function, *Eur J Rheumatol Inflamm* 13: 7-16, 1993

Wolfe SM, Hope RE, *Worst Pills, Best Pills II: The Older Adult's Guide to Avoiding Drug-Induced Death or Illness*, Public Citizens' Health Research Group, Washington D.C., 1993

Flanagin A, Carey LA, Rennnie D, et al, Prevalence of articles with honorary authors and "ghost" authors in peer-reviewed medical journals, *J Am Med Assoc*, 280; 3:222-224, July 15, 1998

Waalkes MP, Rehm S, Cadmium and prostate cancer, *J Toxicol Environ Health*, 43: 251-269, 1994

Heath JC, Daniel IR, Webb M., et al, Cadmium as a carcinogen, *Nature*, 193: 592-593, 1962

Kipling M.D., Waterhouse JH, Cadmium and prostatic carcinoma, *Lancet* i: 730-731, 1967

Piscator M, Role of cadmium in carcinogenesis with special reference to cancer of the prostate, *Environ Health Persp*, 40: 107-120, 1981

Visser, AJ, Deklerk JN, The effect of dietary cadmium on prostate growth, *Trans Am Assoc G-U Surg*, 70: 66-68, 1979

Baldi I, Filleul L, Mohammed-Brahim B, Brochard P, et Al Neuropsychological effects of long-term exposure to pesticides: Results from the French Phytoner study, *Environ Health Persp*, 109; 8: 839-44, Aug. 2001

Repetto R, Baliga SS, *Pesticides and the Immune System: The Public Health Risks*, World Resources Institute, Washington D.C., 1996

EPA, *Recognition and Management of Pesticides Poisonings*, EPA, Washington D.C. 1999

Kaloyanova FP, El Batawi MA, *Human Toxicology of Pesticides*, CRC Press, Boca Raton, 1991

Arlien-Soborg P, *Solvent Neurotoxicity*, CRC Press, Boca Raton, 1992

Perera FP, Environment and cancer: Who are susceptible?, *Sci* 278:1068-73, Nov 7, 1997

Wallace L, et al, Concentrations of 28 volatile organic compounds in air and drinking water of 350 residents of New Jersey compared with concentrations in their exhaled breath, *J Occup Med* 28:603-608, 1986

Lieberman AD, Craven MR, Lewis HA, Nemenzo JH, Genotoxicity from domestic use of organophosphate pesticides, *J Occup Environ Med*, 40;11:954-7, Nov 11, 1998

Currie KL, McDonald EC, Chung LTK, Higgs AR, Concentration of diazinon, chlorpyrifos, and bendicarb after application in offices, *Am Indust Hyg Assoc J*, 51;1:23-27, 1990

Hoyer AP, Jorgensen T, Brock JW, Hartvig HB, Organochlorine exposure and risk of breast cancer, *Lancet* 352:1816-20, Dec 5, 1998

Peters, A, Dockery DW, Mittleman, et al, Increased particulate air pollution and the triggering of myocardial infarction, *Circul*, 103: 2810-2815, 2001

Bemis JC, Seegal RF, Polychlorinated biphenyls and methylmercury alter intracellular calcium concentrations in rat cerebellar granule cells, *Neuro Toxicol* 21; 6: 1123-1134, 2000

Sherson DL, Stopford W, Mercury levels of sweat, Its use in the diagnosis and treatment of poisoning, *Ugeskr Laeger* 148; 27: 1682-4, June 30, 1986

Lovejoy HB, Bell ZG, Vizona TR, Mercury exposure evaluations and their correlation with urine mercury excretion: 4. Elimination of mercury by sweating, *J Occup Med*, 15: 5900-591, 1973

Parpalei IA, Prokfeva LG, Obertas VG, The use of the sauna for disease prevention in the workers of enterprises with chemical and physical occupational hazards, *Vrach Delo*, 5: 93-5, May 1991

CSIRO Division of Energy Chemistry, NSW Australia, A comparative study of copper, lead, cadmium, and zinc in human sweat and blood, *Sci Total Environ*, 74: 235-47, Aug. 1988

Rea WJ, Pan Y, Johnson AR, Clearing of toxic volatile hydrocarbons from humans, *Bol Asoc Med P R*, 7: 321-4, July 1991

Rea WJ, Ross GH, Johnson AR, Smiley RE, Fenyves EJ, Chemical sensitivity in physicians, *Bol Asoc Med P R*, 83; 9: 383-8, September 1991

Krop J, Chemical sensitivity after intoxication at work with solvents: response to sauna therapy, *J. AH. Compl Med.*, 4; 1:77-86, spring 1998

Inoue S, Kabaya M, Biological activities caused by far-infrared radiation, *Int J Biometeorol*, 33; 3: 145-50, October 1989

Yamazaki T, *Science of far infrared wave therapies*, Man and History Company, Tokyo Japan 1987

Baibekow IM, et al, The effects of low intensity infrared laser radiation on healing of dermatological wounds, *Biull Eksp Biol Med*, 119; 2: 218-24, February 1995

Marmor JB, et al, Combined radiation and hyperthermia in superficial human tumors, *Cancer*, 46; 9: 1986-91, Nov. 1, 1980

Roehm DC, Effects of a program of sauna baths and megavitamins on adipose DDE and PCBs and on clearing of symptoms of Agent Orange (dioxin) toxicity, *Clin Res* 31; 2: 243 a, 1983

Cohn JR, Emmett EA, The excretion of trace metals in human sweat, *Ann Clin Lab Sci*, 8; 4:278-74, 1978

Wolff MS, Anderson KD, Rosenman KD, Selikoff IJ, Equilibrium of polybrominated biphenyl (PBB) residues in serum and fats of Michigan residents, *Bull Environ Contam Toxicol*, 21; 6: 775-81, 1979

Baker EL, A review of recent research on health effects of human occupational exposure to organic solvents. A critical review, *J Occup Med* 36;10:1079-1091, 1994

Steventon GB, et al, Xenobiotic metabolism in Parkinson's disease, *Neurol*, 39:883-887, 1989

Steventon G. B, et al Xenobiotic metabolism in Alzheimer's disease, *Neurol*, 40: 1095-1098, 1990

Betarbet R, Sherer TB, Greenamyre JT, Chronic systemic pesticide exposure reproduces features of Parkinson's disease, *Nature Neurosci*, 3;12:1301-1315, Dec 2000

U.S. Environmental Protection Agency, *Broad scan analysis of the FY82 National Human Adipose Tissue Survey Specimens*, EPA-560/5-86-035, Dec 1986; *Characterization of HRGC/MS unidentified peaks from the analysis of human adipose tissue*, EPA-560/5-87-002A, May 1987

U.S. Environmental Protection Agency, *Chemicals identified in human biological media, a data base*. EPA-560/5-84-003, 1984.

Sullivan JB, Kreiger GR, eds., *Hazardous Materials Toxicology: Clinical principles of environmental health*, Williams & Wilkins, Baltimore, 1992

U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry, *Case studies in environmental medicine*, Vol. 10, *Cadmium Toxicity*, 1-19, June 1990

Leibman KC, Metabolism and toxicity of styrene, *Environ Health Persp*, 11: 115-19, 1975

U.S. EPA, Office of Health and Environmental Assessment, *Health Assessment Document for Toluene*, EPA-600/8-82-008F, Washington D.C. 20460, August 1983

Pelletier L, et al, Autoreactive T-cells in mercury-induced autoimmunity, *J Immunol* 140: 74-77, 1988

Solonen JT, et al., Intake of mercury from fish, lipid peroxidation, and the risk of myocardial infarction and coronary, cardiovascular, and early death in eastern Finnish men, *Circul*, 91:645-55, 1995

Crinnion WJ, Long term effects of chronic low-dose mercury exposure, *Alt Med Rev*, 5; 3: 209-223, June 2000

Sood PP, et al. Cholesterol and triglyceride fluctuations in mice tissues during methylmercury intoxication and monothiols and vitamin therapy, *J Nutri Environ Med* 7; 3:155-162, 1997

Grandjean P, Weihe P, Needham LL, et al, Relation of a seafood diet to mercury, selenium, arsenic, polychlorinated biphenyls and other organochlorine concentrations in human milk, *Environ Res* 71: 29-38, 1995

Sug O, Datar S, Koch CJ, et al, Mercury compounds inhibit human monocyte function by inducing apoptosis: evidence for formation of reactive oxygen species, development of mitochondrial membrane permeability transition and loss of reductive reserve, *Toxicol*, 124: 211- 24, 1997

Shenker BJ, Guo TL, Shapiro IM, Low-level methylmercury exposure causes human T-cells to undergo apoptosis: evidence of mitochondrial dysfunction, *Environ Res* 77: 149-59, 1998

Coccini T, Randine G, Candura SM, et al, Low-level exposure to methylmercury modifies muscarinic cholinergic receptor binding characteristics in rat brain and lymphocytes: physiologic implications and new opportunities in biological monitoring, *Environ Health Perspect*, 108:29-33, 2000

Atchison WD, Hare MF, Mechanisms of methylmercury-induced neurotoxicity, *FASEB J*, 8: 622-29, 1994

Ngim CH, Foo SC, Boey KW, Jeyaratnam J, Chronic neurobehavioral effects of elemental mercury in dentists, *Brit J Indust Med*, 49: 782-790, 1992

Pendergrass JC, Haley BE, Vimy MJ, et al, Mercury vapor inhalation inhibits binding of GTP Tubulin in rat brain: similarity to a molecular lesion in Alzheimer's disease brain, *Neurotox* 18: 315-24, 1997

Bigazzi PE, Lessons from animal models: the scope of mercury-induced autoimmunity, *Clin Immunol Immunopathol*, 65: 81-84, 1992

Enestrom S, Hultman P, Dose-response studies in murine mercury-induced autoimmunity and immune-complex disease, *Toxicol Appl Pharma* 113: 199-208, 1992

Abe T, Ohtsuka R, Hongo T, et al, High hair and urinary mercury levels of fish eaters in the nonpolluted environment of Papua New Guinea, *Arch Environ Health*, 50: 367-373, 1995

Siblerud RL, Kienholz E, Evidence that mercury from silver dental fillings may be an etiological factor in reduced nerve conduction velocity in multiple sclerosis patients, *J Nutr Environ Med*, 12;3:169-72, 1997

Salonen JT, et al, Mercury accumulation and accelerated progression of carotid atherosclerosis: a population-based prospective 4-year follow-up study in man in eastern Finland, *Atheroscler*, 148:265-273, 2000

Arnold SF, et al, Synergistic activation of estrogen receptors with combinations of environmental chemicals, *Sci*, 272:1489-1492, 1996

Howdeshell KL, Hotchkiss AK, Thayer KA, et al, Exposure to bisphenol A advances puberty, *Nature* 401:763-64, 1999

Blount BC, Silva MJ, Caudill SP, et al. Levels of seven urinary phthalate metabolites in a human reference population, *Environ Health Persp*, 108:972-82, 2000

Weisglas-Kuperus N, Sas TCJ, Sauer PJJ, et al, Immunological effect of background prenatal and postnatal exposure to dioxins and polychlorinated biphenyls in Dutch infants, *Ped Res*, 38:404-410, 1995

Fredericsson B, Muller L, Westerholm R, et al, Human sperm motility is affected by plasticizers and diesel particle extracts, *Pharmacol Toxicol*, 72:128-133, 1993

Colon I, Caro D, Rosario O, et al. Identification of phthalates esters in the serum of young Puerto Rican girls with premature breast development, *Environ Health Persp*, 108:895-900, 2000

Colborn T, van Saal FS, Soto AM, Developmental effects of endocrine-disrupting chemicals in wildlife and humans, *Environ Health Persps* 101:378-84, 1993

Phillips G. B., Pinkernell BH, Jing TY, The association of hypo-testosteronemia with coronary artery disease in men, *Arterioscler Thrombos*, 14: 701-06, 1994

Wiseman H, Halliwell B, Damage to DNA by reactive oxygen and nitrogen species: role in inflammatory disease and progression to cancer, *Biochem J*, 313:17-29, 1996

Bemis JC, Seegal RF, Polychlorinated biphenyls and methylmercury alter intracellular calcium concentrations in rats cerebellar granule cells, *Neurotox*, 21; 6:1123-1134, 2000

Echeverria D, Heyer NJ, Martin MD, Naleway CA, et al., Behavioral effects of low-level exposure to Hg among dentists, *Neurotox Terat*, 17; 2: 161-1 68, 1995

Rier SE, Martin D.C., Becker JL, Endometriosis in rhesus monkeys (*Maccaca mulatta*) following chronic exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin, *Fund Appl Toxicol*, 21:433-441, 1993

Raloff J, Girls may face risks from phthalates, *Sci News* 158:165, Sept 9, 2000

Jones DP, Chemical levels detected in people alarm scientists, *Sarasota Herald*, A1, Sunday Aug. 21, 2000

Jobling S, Reynolds T, Sumpter JP, et al, A variety of environmentally persistent chemicals including some phthalate plasticizers are weakly estrogenic, *Environ Health Persp*, 103;6: 582-587, June 1995

Rea WJ, *Chemical Sensitivity, Volumes I-IV*, Lewis Publishers, a division of CRC Press, Boca Raton FL 1992-1998

Ashford, NA, Miller CA, *Chemical Exposures, Low Levels High Stakes*, Van Nostrand Reinhold, NY, 1991

Muckle G, Ayotte P, Jacobson JL, et al, Prenatal exposure of the Northern Quebec Inuit infants to environmental contaminants, *Environmental Health Perspectives*, 109; 12: 1291-1299, December 2001

Persky V, Turyk M, Great Lakes Consortium, et al, The effects of PCB exposure and fish consumption on endogenous hormones, *Environmental Health Perspectives*, 109; 12: 1275-1283, December 2001

Schantz SL, Widholm JJ, Cognitive effects of endocrine-disrupting chemicals in animals, *Environmental Health Perspectives*, 109; 12: 1197-1206, December 2001

Kilburn KH, Warsaw RH, Shields MG, Neurobehavioral dysfunction in firemen exposed to polychlorinated biphenyls (PCBs): Possible improvement after detoxification, *Arch Environ Health*, 44;6:345-350, 1989

Kilburn KH, Is the human nervous system most sensitive to environmental toxins? *Arch Environ Health* 44 ;6:343-44, Nov/Dec 1989

Amidon RB, Chemical hazards in law enforcement, *J CA Law Enforcement* 18; 3:27-30, summer 1984

Wolff MS, Anderson HA, Selikoff IJ, Human tissue burdens of halogenated aromatic chemicals in Michigan, *J Am Med Assoc*, 247; 15: 2112-16, April 16, 1982

Rinsky RA, Smith AB, Hornung R, et al, Benzene and leukemia: an epidemiologic risk assessment, *New Engl J Med*, 316: 1044-50, 1987

Kraul I, Karlong P, Persistent organo-chlorinated compounds in human organs collected in Denmark 1972-1973, *Acta Pharmacol Toxicol*, 38: 38-48, 1976

Vree TB, et al, Excretion of amphetamines in human sweat, *Arch Int Pharmacodyn* 199: 311-17, 1972

Ashley DL, Bonin MA, Cardinali FL, Wooten JV, et al., Blood concentrations of volatile organic compounds in a non-occupationally exposed U.S. population and in groups of suspected exposure, *Clin Biochem* 40; 7:1401-04, 1994

Olson L, Aldicarb immunomodulation in mice: an inverse dose response to parts per million levels in drinking water, *Arch Environ Contam Toxicol*, 16: 433-39, 1987

Schnare DW, Ben M, Shields MG, Body burden reductions of PCBs, PBBs and chlorinated pesticides in human subjects *Ambio*, 13;5-6:378-80, 1984

Roehm DC, Effects of a program of sauna baths and megavitamins on adipose DDE and PCBs and on clearing of symptoms of agent orange (Dioxin) toxicity, *Clin Res* 31;2:243A, 1983

Rea W. J., Pan Y, Fenyves, EJ, et al. Reduction of chemicals sensitivity by means of heat depuration, physical therapy and nutritional supplementation in a controlled environment, *J Nutr Environ Med*, 7; 2: 141-48, 1996

Schnare DW, Robinson PC, Reduction of hexachlorobenzene and polychlorinated biphenyl human body burdens, International Agency for Research on Cancer, *Scientific Publication Series* (Oxford University Press), 77:597-603, 1986

Root DE, Lionell GT, Excretion of a lipophilic toxicant through the sebaceous glands: a case report, *J Toxicol Cut Ocul Toxicol*, 6: 13-17, 1987

Tretjak Z, Root, DE, Beckman SL, et al, Xenobiotic reduction and clinical improvements in capacitator workers: a feasible method. University Medical Center, Medical Department of Gastroenterology, Japljeva 2, Ljubljana 61000, Yugoslavia, 1990

Hubbard LR, *Clear Body Clear Mind*, Bridge Publications, 4751 Fountain Avenue, Los Angeles CA 90029, 1990, 1-888-514-8788

Tei C, Horikiri Y, Park JC, Tanaka N, et al, Acute hemodynamic improvement by thermal vasodilation in congestive heart failure, *Circulation*, 19:2382-90, 1995

Muckle G, Ayotte P, Jacobson JL, et al, Prenatal exposure of the Northern Quebec Inuit infants to environmental contaminants, *Environmental Health Perspectives*, 109; 12: 1291-1299, Dec 2001

Persky V, Turyk M, Great Lakes Consortium, et al, The effects of PCB exposure and fish consumption on endogenous hormones, *Environmental Health Perspectives*, 109; 12: 1275-1283, Dec 2001

Schantz SL, Widholm JJ, Cognitive effects of endocrine-disrupting chemicals in animals, *Environmental Health Perspectives*, 109; 12: 1197-1206, Dec 2001

Imamura M, Biro S, Kihara T, Tei C, et al, Repeated thermal therapy improves impaired vascular endothelial functions in patients with coronary risk factors, *J Am Coll Cardiol*, 38; 4: 1083-1087, 2001

Ikeda Y, Biro S, Kamogawa Y, et al, Repeated thermal therapy upregulates arterial endothelial nitric oxide synthase expression in Syrian golden hamsters, *Jpn Circul J*, 65: 4 34-4 38, 2001

Wartenberg D, Scott CS, Carcinogenicity of trichloroethylene, *Environ Health Persp*, 110; 1: a13-a14, 2002

Birnbaum LS, Cummings AM, Dioxins and endometriosis: A plausible hypothesis, *Environ Health Persp* 110; 1: 15-21, 2002

Kessler DA, Introducing MedWatch: A new approach to reporting medication and devise adverse effects and product problems, *J Am Med Assoc*, 269 ; 21: 2765-70, Jun 2, 1993

- Lazarou J, Pomeranz BH, Corey PN, the Incidents of adverse drug reactions in hospitalized patients, A meta-analysis of prospective studies, *J Am Med Assoc*, 279; 15: 1200-12 05, Apr 15, 1998
- Choudhry NK, Stelfox HT, Detsky AS, Relationships between authors of clinical practice guidelines and the pharmaceutical industry, *J Am Med Assoc*, 287; 5:612-617, Feb 6, 2002
- Peterson G, Saxon A, global increases in allergic respiratory disease: the possible role of diesel exhaust articles, *Ann Allergy, Asthma Immunol* 77: 263-70, 1996
- Schwartz J, Low-level lead exposure and children's IQ: a meta-analysis and search for a threshold, *Environ Res* 65: 42-55, 1994
- Lanphear BP, Dietrich KN, Auinger P, Cox C, Cognitive deficits associated with blood lead levels <10ug/dl in U.S. children and adults, *Public Health Rep*, 115: 521-529, 2000
- Zanobetti A, Schwartz J, Dockery DW, Airborne particles are a risk factor for hospital admissions for heart and lung disease, *Environ Health Persp* 108: 1071-77, 2000
- Laden F, Neas LM, Dockery DW, Schwartz J, Association of fine particulate matter from different sources with daily mortality in six U.S. cities, *Environ Health Persp* 108: 941-947, 2000
- Janssen NAH, Schwartz J, Zanobetti A, Suh HH, Air conditioning and source-specific particles as modifiers of the effect of PM10 on hospital admissions for heart and lung disease, *Environ Health Persp* 110; 1:43-49, 2002
- Wong CM, Atkinson RW, Lam TH, et al, A tale of two cities: Effects of air pollution on hospital admissions in Hong Kong and London compared, *Environ Health Persp* 110; 1: 67-77, 2002
- Packer L, *The Antioxidant Miracle*, John Wiley and Sons, New York, 1999
- Willis RA, Folkers K, Tamagawa H, et al, Lovastatin decreases coenzyme Q levels in rats, *Proc Natl Acad Sci USA*, 87:8928-30, Nov 1990
- Toasetti M, Littarru GP, Stocker R, Allewa R, Coenzyme Q10 enrichment decreases oxidative DNA damage in human lymphocytes, *Free Rad Biol Med*, 27; 9/10: 1027-32, 1999

Nakamura R, Littarru GP, Folkers K, Wilkinson EG, Study of CoQ10 enzymes in gingiva from patients with periodontal disease and evidence for a deficiency of coenzyme Q10, *Proc Natl Acad Sci* 7; 4:41 56-60, 1974

Judy WV, Hall JH, Folkers K, et al, Double-blind crossover study of coenzyme Q10 in heart failure, in *Biomedical and Clinical Aspects of coenzyme Q*, Vol. 5, K. Folkers and Yamamura Y, Eds., Elsevier Science Publishers, Amsterdam, pp 315-23, 1986

Folkers K, Vadhanavikit S, Mortensen SA, Biochemical rationale and myocardial tissue data on the affected therapy of cardiomyopathy with coenzyme Q10, *Proc Natl Acad Sci*, 82; 3:901-04, 1985

Mortensen SA, Bouchelouche P, Folkers K, et al, Clinical decline and relapse of cardiac patients on coenzyme Q10 withdraw, in *Biomedical and Clinical Aspects of coenzyme Q*, Vol. 5, K. Folkers and Yamamura Y, Eds., Elsevier Science Publishers, Amsterdam, pp 281-90, 1986

Taken from: Rogers SA, *Detoxify Or Die*, Prestige Publishing, Syracuse NY, prestigepublishing.com, 2002, 1-800-846-6687

How to Detoxify

Even though the body has one proven mechanism for dumping environmental toxins, many folks can't sweat. Environmental chemicals have so damaged the autonomic nervous system that it's like having a broken thermostat. For others, they feel dreadfully ill if they try to sweat. After driving the tractor to spray chemicals on hundreds of acres of upstate New York cornfields, I was one of those folks who never sweat. For those who do sweat, high heat causes the mobilization into the bloodstream of nasty chemicals from "safe" storage in fat, heightening symptoms. As well, loss of precious nutrients along with the chemicals can precipitate serious medical problems.

A specific detoxification program is needed to circumvent these problems, while first making sure the detoxification pathways are strong enough to handle the extra burden of mobilized chemicals. As well, I'll show you how folks for whom high temperatures are forbidden, like congestive heart failure and high blood pressure patients, can use this program. Because like anything else in life, there's a huge spectrum of people and their individual intolerances. With a sauna program, there are those who breeze right through and others who cannot even get started. So regardless of your status, let's get you over these hurdles.

Sweating Out Toxins, as Easy as 1, 2, 3

If you think you are basically a healthy person, you can probably just jump in the sauna for up to an hour a day at 110-120 degrees, remembering 1, 2, 3:

1. use the **sauna replenishment nutrients** before going in,
2. your **detox cocktail** when you come out, and
3. your **daily nutrients** around 12 hours later.

However, since we are addressing an audience with a wide variety of health conditions, deficiencies and toxicities, let's get you a lot more knowledgeable about potential problems that can occur and how to thwart them. As well, if you happen to be one who has poor initial tolerance to sauna, doesn't sweat, or who has tough chemicals that put up a struggle, there's a lot more you should know.

General Rules for the FIR Sauna

Start using the sauna at 100°F, in short 10-20 minute increments at first, building up a feel for your body's tolerance. Use less heat if you feel discomfort initially. Older, sicker, or folks who feel initial discomfort should proceed at a much slower pace and even lower temperatures. The far infrared sauna wavelength penetrates 1 1/2 inches into the body, generally enabling chemicals to come directly out of subcutaneous fat storage sites into sweat. This avoids a worsening of symptoms seen when high heat saunas pull chemicals out of safe storage, then directly into the bloodstream on their way to the sweat. For once the chemicals are in the bloodstream, you can duplicate some of your worst old symptoms.

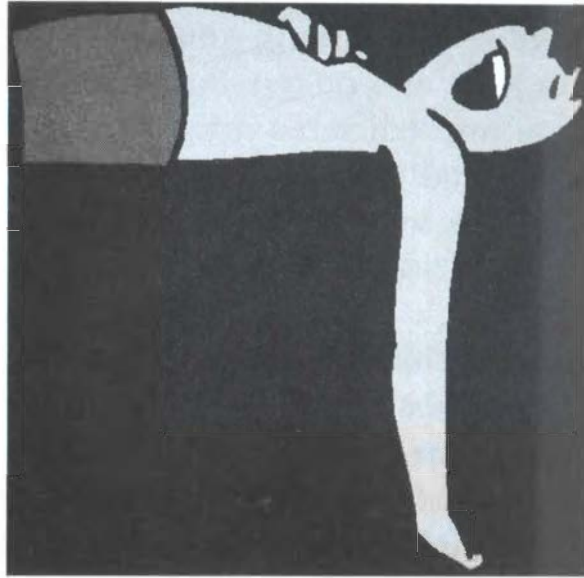
If you suspect you've had severe poisonings that may create serious withdrawal symptoms as you mobilize chemicals, go at a slower pace. For example, if you used cocaine or heroin and did crazy things while on it, you may want someone in attendance with you as you go through mobilization and dumping of these unpredictable drug residues. Even though the far infrared method is much safer and does not generally precipitate symptoms, I've learned after 32 years in medicine that there are always exceptions to any rule.

If you are pregnant, have metal parts in your body, take important medications whose levels should not change (like insulin, seizure or heart medications), or are within 48 hours of an acute injury (still in the swelling phase), definitely check with your doctor. In fact any time you embark on a health program, his/her input should be included in your decision-making.

It is a good idea to get a complete physical from your doctor when you discuss your sauna plans. If you are on any medications, sauna may help you detoxify and get rid of important drugs too quickly, thereby changing your blood levels. For some drugs this is not desirable, or you may need to have blood levels of the drug drawn, or have other parameters that are affected by the drug monitored.

I suggest you take your blood pressure, temperature, respiratory rate, weight and pulse rate, assessing its regularity before and after the first few saunas. If you are fragile, check them every 10-15 minutes while in the sauna. It is just good sense to have a blood pressure cuff (sphygmomanometer), stethoscope and thermometer around the house anyway. Any neighborhood nurse, local firehouse ambulance personnel,

pharmacist, or your doctor's nurse, etc. can show you how to use them.



There is no prize for getting to a high temperature or being able to tolerate hours in the sauna. Be gentle with your body and as soon as you feel any discomfort, that's enough for one day.

If your blood pressure, pulse or respiratory rate increase 10 points, get out of the sauna for the day. You've had enough for a beginner until your next day's session. Why stress your body any more than it has already been stressed throughout your life? Next session use a shorter time and lower temperature along with increasing your minerals and water. If your oral temperature goes over 100 F., stop for the day.

If you weigh less after a sauna, you did not drink enough water to compensate for the loss. A good rule of thumb is to weigh your towels before and after the sauna, drinking the difference in weight in spring water. That is, if your towels gained 3 pounds of water, drink 3 pounds of water. Also keep

a little diary and document any symptoms. If you get exaggerated withdrawal symptoms, it could be magnesium or other mineral deficiencies as opposed to withdrawal symptoms from some prescription medication, recreational drug, or past chemical exposure (see emergency measures below).



Each person has a point at which his barrel of toxic chemicals overflows. At that point he has symptoms -- -- -- that become an automatic deficiency of some drug. Arthritis becomes a Celebrex deficiency, depression becomes a Prozac deficiency, and high cholesterol becomes a Mevacor deficiency.

If you are very apprehensive, start with 10 minutes daily at 100-110 F. Then slowly advance over the weeks to an hour. After you tolerate this, you may wish to slowly advance to 130 F. However, many people stay below 120 degrees Fahrenheit indefinitely. There is no need to go higher. This is not a contest. Some folks start out at 140 degrees Fahrenheit, and as soon as they sweat within 10-15 minutes, then they drop the temperature down to 100, 110 or 120, wherever they

are comfortable. If at any time you feel uncomfortable, you can stop or just open the door and towel off, cool down for a few seconds and then close the door again.

If you cannot attain any of this in one session, no problem. You may leave it at what you tolerate or get out, shower off toxins, and sauna again in the same or next day. Remember to keep drying off the sweat with a towel. While in the sauna, sometimes just opening the door for a bit or turning down the temperature is enough to allow longer exposure. For folks who are in a hurry to get well, but whose bodies do not let them sauna for more than 15 minutes in the beginning, they may elect to fool the body and do 15 minutes 2-4 times a day.

You must stop at any time that you experience headache, nausea, fast heart rate, weakness, irregular heart rate (if this is not a symptom you normally have), shortness of breath, dizziness, disorientation, muscle cramps, muscle spasms or twitching, or any adverse symptom. Use a tepid shower to cool down slowly without shocking the system. The symptoms of heat stroke (dry and/or cold skin) are more dangerous and require immediate removal and 1-3 tsp. of Tri-Salts with plenty of water. Include a retention water enema (1 tbs. of Tri-Salts in 2-4 cups of water) as well. Unless you had a mineral and fatty acid analysis before you entered, no one knows what nutrient deficiencies you started with. Anything borderline can be accentuated or made dramatically worse with the losses sustained with any sauna.

Remember the average American diet only provides 40% of the magnesium a person needs in a day. So everyone is low to begin with. Sauna will only make it worse. Magnesium is the main mineral to be lost in the greatest amount in sweat. Zinc

and calcium are a close second for the most commonly lost minerals, then all the other minerals and nutrients follow. So since most people already start out with multiple deficiencies, especially magnesium, it is imperative to compensate for the accentuation of losses incurred by forced sweating. You'll see I will give you lots of sources for fast, efficient absorption of magnesium later on.

Before the sauna, vasodilatation:

Your first goal is to cause vasodilatation or an opening up of channels to improve outflow of chemicals. This can be accomplished with one or more of the following, but bear in mind that although they improve the effectiveness of the far infrared sauna or FIRS, they're not mandatory. Many people do their saunas without doing any of this:

- Exercise for 10-30 minutes prior improves mobilization of chemicals from fat. It can be jogging, calisthenics, jumping rope, cycling, sports, yoga, dance aerobics, or whatever you choose.
- For those who cannot do exercise, use a loofa sponge or natural bristle body brush, or even a massage is great to stimulate skin circulation.
- Take niacin (vitamin B3) to tolerated dose. Start with 50-100 mg before the sauna. Each day the dose is the same until the flushing, redness, burning or tingling from histamine release stops. Then advance by 50-100 mg every day as long as you have stopped burning, and tingling with the previous dose. Some folks can get up to 1000 mg or more; others are forever stuck at 50-300 mg. If you use it 4 times a day, you can move the dose higher a lot faster. If

you accidentally take too large a dose, you may get a niacin flush reaction. If you miss a dose for a few days and forget to back down and slowly build up again, this may also precipitate the temporary flushing reaction. If you find the burning, redness or tingling unbearable, over-the-counter Benadryl® (diphenhydramine) 50-100 mg will shorten the reaction (It also makes you sleepy. Do not drive until your reaction time is normal).

- Take an enzyme like Wobenzyme (Pain & Stress Center, N.E.E.D.S.), Bromase (Bio-Tech), Bromelain (Jarrow, Pure Encapsulations, Thorne) or Total-Gest (Klabin, N.E.E.D.S.) to clear stagnant sludge from lymphatics and blood, encouraging mobilization of chemicals from fat more easily. Use 1-5 of preferred form, as tolerated. It is desirable to have no food in your stomach for a few hours before, so the enzymes are working in the blood stream, not on digesting your food.
- Take ginkgo in the form of Ginkgo-Go (Wakunaga), 1 or 2 a day for its vasodilating properties.

Before the sauna, use these sauna replenishment nutrients:

Mandatory before each sauna session totaling an hour is to

- drink minimum 1-2 quarts of water (alkaline water producing machine is preferred, available from High Tech Health)
- take two Liquid Multiple Minerals (Carlson)
- 1/2 tsp. or 2 capsules of Barefoot's Coral Calcium (Nature's Benefit 1-877-765-1099, N.E.E.D.S.),
- one tsp. of Tri-Salts (AEHF or Bio-Tech)
- one Zinc Balance (Jarrow)

- your choice of magnesium, usually 100 - 300 mg for every hour of sweat (see below). This step should not be an option, since you want to get a head start on correcting the fluid and mineral losses that inevitably accompany loss of stored chemicals.

If you do two hours, double everything. If you do less than one hour, take the sauna replenishment nutrients when you have accumulated an hour of sauna time.



How do shellfish like lobsters and clams grow such tough outer skeletons? They extract calcium and other minerals from the sea's coral. You can capitalize on this to by using the same natural form, Barefoot's Coral Calcium.

Most important is **magnesium**. The last thing you want is a magnesium deficiency-induced muscle spasm, migraine, seizure, weakness, depression, exhaustion, cardiac arrhythmia like atrial fibrillation or ventricular tachycardia, a stroke or a magnesium deficiency-induced heart attack. Because magnesium is so important and the needs, pocketbooks and

tolerances of folks are so varied, I'll give you many magnesium options with the dose that you would use with the sauna replenishment program above. Remember all nutrients are merely a guideline. You may find that you need far more magnesium or other nutrients to stay out of trouble.



Powder or liquid forms of magnesium are the most powerful, closest to an IV, for quickly restoring magnesium lost in sweat.

Consequently, my favorite magnesium choices are mainly liquids or powders because they have much better absorption compared with pills and capsules:

- 1-2 tsp. Magnesium Chloride Solution 18% (Pain & Stress Center, 1-800-669-CALM), contains 133 mg of magnesium per tsp. (works almost as fast as an IV, but tastes dreadful).
- 1/4-1/2 tsp. Magnesium Chloride Solution 82 mg/cc (Pain & Stress Center, 1-800-669-CALM), contains 205 mg magnesium per half tsp.

- 1/2-1 tsp. Natural Calm (Peter Gillham's 1-888-800-1180, Pain & Stress 1-800-669-CALM, Vital Nutrition 1-800-875-8658, or N.E.E.D.S.); contains 205 mg of **magnesium citrate** per tsp. (my all-around favorite first choice, partly because of taste and ease and partly because citrate works double duty by helping to neutralize the organic acids in the body and to boost the energy cycle),
- or you can have your doctor write a prescription for the most potent form, Magnesium Chloride Solution 200 mg/cc (Windham Pharmacy, Windham, New York, 1-518-734-3033 or Lakeside Pharmacy 1-800-523-1486), which contains 200 mg in every one cc dropper (1/5 of a tsp.). Both will provide glass (not plastic) bottles if you request.

Take into the sauna:

- Whatever you need to entertain yourself. Some folks set a TV outside their sauna, watch videotapes or listen to audio tapes or CDs, read or meditate. The time is never wasted. The entertainment can range from golf or tennis instructions to books on tape. (I read molecular biochemistry and toxicology.)
- Several large clean bath towels to continually wipe the sweat from your body to prevent it from being reabsorbed. Remember, until you get a handle on your water loss, in the beginning it is useful to weigh the towels before and after, so that you can be sure you drink an equal amount of weight in water.
- Bring towels for the floor and to sit on to absorb the sweat. You don't want to contaminate your sauna wood.
- Water to drink.

After the sauna, your **detox cocktail** as soon as you come out:

- One tsp. of pure **Vitamin C Powder** (Metabolic Maintenance, available through Pain & Stress Center, Klaire Labs). This is adjusted downward if you have diarrhea or upward if you need a greater amount. For folks who need a buffered form of vitamin C, I recommend **C-Buffer** (Bio-Tech) which contains four grams of vitamin C, 250 mg of magnesium ascorbate/aspartate, 30 mg of zinc ascorbate, 25 micrograms of selenium ascorbate, 5 mg of manganese ascorbate and 90 mg of potassium ascorbate per tsp. Or **AB-C** (American Biologics) makes a fine buffered C: a tsp. delivers 2,400 mg of ascorbic acid, 190 mg of magnesium carbonate, 350 mg calcium carbonate, 198 mg of potassium bicarbonate and 6 mg of zinc monomethionine, as well as 200 mg of quercetin bioflavonoids.
- 300-600 mg of **Lipoic Acid** (Metabolic Maintenance, Pain & Stress Center, Jarrow, Pure Encapsulations, Carlson, Bio-Tech). Pain and Stress Center (Metabolic Maintenance) is potato-antigen-free.
- 400-800 mg of **Recanostat** (Tyler, available through NEEDS) or **Reduced L-Glutathione** (Klaire); replacement options would be: **ThioNAC** (Jarrow) containing N-acetyl cysteine 500 mg (the rate limiting amino the body needs to make its own glutathione) and 100 mg of lipoic acid; Another option would be **ThioDox** (Allergy Research Group with 250 mg of N-acetyl cysteine, 200 mg of l-glutathione, 150 mg of lipoic acid, as well as B-1, B-2, C, and selenium (may contain potato antigen).
- All in one or two big glasses of spring water.

2-22 hours later, use your **daily nutrients**:

This could be as simple as a multiple like Multiplex-1 (Tyler) or Heartbeat Elite (Carlson). Or it could be expanded to be more in tune with the vast amount of knowledge we now have about using nutrients to prevent disease. Following is just one example of a limited daily plan that helps correct some of the most commonly observed deficiencies. You may certainly substitute other formulations and add other nutrients that you know you need:

- A multiple as above (plus extra minerals as below)
- 1-2 Liquid Multiple Minerals (Carlson) or 2 Osteo Complex (Tyler) or 2 Bone-Up (Jarrow)
- ½ -1 tbs. Cod Liver Oil (Carlson) a day
- 1-2 tsp. PhosChol Concentrate (American Lecithin) a day or 1-2 caps of PhosChol 900
- 1 B-Compleet-100 (Carlson)
- 1 Folacal (Thorne)
- 1-2 E-Gems Elite (Carlson)
- 2 Tocotrienols (Carlson)
- 1 Super DHA (Carlson)

If you cannot take this spread out over a day, spread it out over two or three days. After 32 years of looking at thousands of people's deficiencies and scouring thousands of nutritional and biochemistry studies, this formulation has brought new life to a multitude. Feel free to modify according to your needs, especially once your physician has actually checked your RBC Minerals and Fatty Acids (MetaMetrix). While he is at it, he might as well add a Heavy Metals analysis to the RBC Minerals so you can get a glimpse at what you need to get rid of.

Emergency Measures:

Bare minimum you must have on hand:

- A very inexpensive product, Tri-Salts (American Environmental Health Foundation (AEHF), Bio-Tech, N.E.E.D.S.).
- Also you must have a form of magnesium, for the first sign of muscle cramps or twitches most likely means you have sweat out too much. As well, magnesium deficiency can mimic drug, medicine or toxic chemical withdrawal. It is imperative that you should never begin a sauna without it. Try different forms and check prices; some prefer to have several forms on hand.
- You must also have immediately available a cool shower or at least a cool floor to lie on in case you carelessly get yourself overheated. In fact, don't even think of doing a sauna until you have these three available.

In case of feeling lousy, weak, woozy, dizzy, nauseated, exhausted, muscle cramps, spasms, cardiac arrhythmia, or other symptoms, you should have on hand:

- extra water
- Potassium Citrate (Pain & Stress, Metabolic Maintenance)
- Calcium Citrate 225 mg (Pain & Stress, Metabolic Maintenance)
- Zinc Balance (Jarrow) which also contains copper to balance the zinc
- Barefoot's Coral Calcium (Nature's Benefit, N.E.E.D.S.)
- sea salt (health food stores or N.E.E.D.S.).
- Bragg's Apple Cider Vinegar (health food stores or N.E.E.D.S.).

Without ready availability of tests to measure what you are depleted in, you need to make some educated guesses. This is not as far off the mark as it may sound, for even if you went to the hospital emergency room, they would not do the tests with the precision you need. They would measure a serum potassium or a serum magnesium. But since only 1% of these minerals are in the serum, the serum assays are far too insensitive. You need the RBC (red blood cell) values. I repeat (not because I fear you don't get it, but because medicine has persisted in making this fatal mistake for over a decade): only 1% of the magnesium in the body is in the serum. This means you can be so low in magnesium, for example, that it triggers a heart attack within the hour, yet the serum test will look perfectly normal. The rarely done RBC magnesium is much more sensitive (but takes longer to perform), giving a much more accurate picture.

The first thing you do with any adverse symptoms is lie down and drink 2-4 large glasses of water with ½-1 tsp. of Tri-Salts (Bio-Tech, AEHF, N.E.E.D.S.) added.

However, if you have been low in magnesium in the past with atrial fibrillation or muscle cramps, for example, and this resembles your magnesium-deficiency symptoms, take extra magnesium instead or in addition: 200 mg of magnesium, with repeat of the dose in an hour if need, will confirm this. Everything should be with 1-2 large glasses of spring or preferably alkaline water. If, on the other hand you suspected that calcium was your deficiency, use 2-4 Coral Calcium (Nature's Benefit, N.E.E.D.S.) or 1-2 Calcium Citrate (Pain & Stress Center, Metabolic Maintenance) or 1-2 Bone (Carlson) in a large glass of water. If you are older, on heartburn medications, or have poor digestion, you may want to add ½

tsp. of Braggs' Organic Apple Cider Vinegar (health food stores, or from N.E.E.D.S.) to improve assimilation of minerals.



During an emergency is not the time to be ordering your nutrients. Be sure you have the basics on hand before you start your sauna.

If you crave salt, sodium chloride may be what your body is hungry for, so take $\frac{1}{2}$ -1 tsp. of sea salt in a glass of water.

Some people lose a disproportionate amount of potassium and feel restored with Potassium Citrate 99 mg (Carlson, Pain & Stress Center, Metabolic Maintenance), 5 capsules 2-6 times a day. Again, lots of water is imperative as well as evaluating a different mineral if the one you are correcting does not do the trick within a few hours, or in a day at most. And do not ever do another sauna if you have not yet recovered to your prior status. For a fast fix, you could take all of the above, but stretch it over an hour or more to avoid nausea, diarrhea or

worsening. It is always best to try to wait half an hour in between doses so that you can better determine which it was that your body needed.

In essence, for most folks who just want to get healthier by slowly unloading their lifetime of chemicals, a good diet of whole foods, 2-6 quarts of water, a tsp. of Tri-Salts, 200-400 mg of extra magnesium, 2 multiple minerals, the detox cocktail, and a multiple vitamin-mineral will balance them out if they limit the sauna to an hour a day. This may be the slow boat to China, but it requires less adjusting of minerals that were sweat out. Then once a week you can add extra minerals like zinc on one day, selenium another, chromium another, copper another, manganese another, and then molybdenum. This way it spreads them out, but gives a little extra boost weekly of each mineral.

The Sauna Program With Detox Boost Emphasis

The most important part of a safe sauna program is to remove mobilized toxins from the body as quickly as possible, while restoring the nutrients that have been lost. Now let's expand the program for folks who are sicker or more damaged to include five important aspects. Some of these aspects you have already learned about, but I want to collate them into this broader picture. Don't duplicate overlapped items.

- (1) Vasodilatation: This is done as you recall with either exercise, massage, Vitamin B3 (Carlson), Ginkgo-Go (Wakunaga), and/or enzymes like Wobenzyme (Pain & Stress Center or Bromelain (Jarrow). Again, their purpose is to dilate vessels and make it easier for chemicals to cut through the sludge. Improved penetration through

tissues aids removal of toxins stored in tissues. Do this before the sauna.

- (2) Detoxification: This involves revving up phase I and phase II of the detoxification pathways to accelerate getting rid of mobilized toxins, once they have been pulled from storage. Depending on how contaminated you are and how sick you are, you may want to add additional nutrients for each phase of detoxification. You could add one or several.

Nutrients that boost Phase I include:

- vitamin C
- lipoic acid
- glutathione (in the form of Recancostat, from Tyler or Reduced L-Glutathione from Klaire); luckily you already have these three in your detox cocktail.
- IndolPlex (Tyler)
- Kyolic (Wakunaga): Remember vitamin C, lipoic acid and Kyolic are also great heavy metal detoxifiers as well as anti-oxidants and phase I detox boosters.
- Microhydrin (Feidler)
- OPC (Thorne, N.E.E.D.S.)
- Ginkgo-Go (Wakunaga)
- Non-hydrolyzed Whey (Thorne), which we call the poor man's glutathione
- L-Arginine (Pain & Stress Center = P&S)
- Carnitine (Pure Encapsulations)
- Thisylin (Bio-Tech)
- Imm Power (Klabin, N.E.E.D.S.)
- ImmunoPro (N.E.E.D.S.)
- Alpha Ketoglutaric Acid (Klaire)

- Taurine (P&S), and many others. Obviously you have a lot to choose from. Also, as you notice you are already on some of them like your daily detox cocktail, IndolPlex, or Kyolic for the gut, or Ginkgo-Go for vasodilatation.

Nutrients which help boost phase II :

- more Recanostat (Tyler) or Reduced L-Glutathione (Klaire)
- more IndolPlex (Tyler)
- TMG (Klabin/Longevity Science)
- Calcium-D-Glucarate (Tyler)
- Glycine (P&S)
- MSM (P&S)
- Thymic Protein A (Klabin, BioActive Nutritionals)
- DHEA (Jarrow, Pure Encapsulations)
- CoQ10 (Carlson, Jarrow, Pure Encapsulations, Philips, Klabin)
- DGL (Rhizinate, Integrated Therapeutics)
- Detoxification Factors (Tyler)
- Cyto Redoxin (Tyler)
- Glutathione Factors (Carlson), and more.

(3) Restoration: Putting back the minerals and other nutrients lost in the work of detoxification and through sweat is crucial, as explained earlier.



We all must daily extinguish the fires of free radicals (reactive oxygen species, ROS) before they burn holes in cell membranes and cause disease. If the options for boosting both phases of detoxification overwhelm you, merely start with the best protection, your daily detox cocktail.

- (4) Intestines: Because the gut houses half the immune and detoxification systems, special nutrients and procedures play a decisively beneficial role in gut health. These include: the detox enema, Kyo-Green, SeaVive, Kyolic, and probiotics with meals like Vital 10 (Klaire), Culturelle (Klaire), Essential Formulas (Vital Nutrition), or Kyo-Dophilus (Wakunaga). Also important can be Carlson's Cod Liver Oil, PhosChol, and UltraInflamX (HealthComm). If you are not quite sure if your gut is healthy and you have had your share of antibiotics, have irritable bowel syndrome (gas, bloating, alternating diarrhea or constipation) and eat processed foods, a good idea is to do a month or two of SeaVive and Kyolic, 2 twice

a day each, followed by a month of probiotic, like Vital 10 (Klaire) or Kyo-Dophilus (Wakunaga) 2 twice a day.

- (5) Maintenance: in addition to the nutrients recommended earlier, it is also recommended to take 1-4 times a week one additional selenium (400 mcg), chromium (400 mcg-1 mg), vanadium (400 mcg-7.5 mg), iodine (400 mcg), molybdenum (400 mcg-1 mg), and lithium (400 mcg), as well as boron (3-6 mg), manganese (1-5 mg), and copper (2-4 mg, Pain & Stress, Pure Encapsulations, N.E.E.D.S.), and 20 drops a day of BioSil (Jarrow). This will further replenish trace minerals to keep your arteries, joints, tendons, bones and other parts very strong.

Many of these supplements overlap from one category to another, so don't be scared off. And no one needs all of these. The frequency and amount of these will depend on individual chemistry, diet, current diseases, medications, environmental chemical overload, and intensity of sauna. For example, if you do a slow steady sauna program of an hour or less a day, you may take 1-3 months to use up one order of nutrients (a bottle of 100, used as one capsule a day lasts 100 days, but rarely will you take them every single day, so they'll last even longer). The prime reason for suggesting all these extra nutrients? No one knows what you will deplete. You can probably do a sauna for weeks or more with no problem. But once you start feeling poorly, you need a good idea of what the most likely deficiencies are and how to correct them. You also need substitutes if you frequently have intolerance for products. This is designed to make your detective work easier. And I would always prefer that you have too much information than not enough. Obviously things that are

useful in more than one category, like the detox cocktail, are a must.

The best prevention of deficiencies is to have a **RBC Mineral Analysis** every 3-6 months. Also desirable would be to add to it the **RBC Heavy Metals** to determine what metal toxicants you started with, what ones have been pulled out, and what new ones are now been pulled from other storage areas so that they reach equilibrium with the red blood cells and now are seen for the first time. In other words, sometimes people start out with obvious elevations of mercury in the blood cells. After they do a sauna for a few months, they've cleaned out the mercury and now cadmium that was hiding in tissues may be pulled out. So suddenly you find cadmium in the **heavy metal blood test or urine provocation test** that did not show before.

Also useful is analysis of **Fatty Acids** to determine what is deficient and needs correcting, and a **Detoxification Capability Panel** to determine where your detox deficiencies are. All are easily available; your doctor merely writes a prescription and you call MetaMetrix for the kits and take them to any local lab to have blood drawn. If your doctor has trouble interpreting the lab results, the lab personnel will help and they also have an excellent book written by the top two scientists at the lab (I'll give you that information later).

Do you need all of these? No. They merely give you an idea of part of the spectrum of nutrients and tests that could be used. For example, some people are so sensitive to nutrients that they need a wide variety from which to choose.

The PC Key

As one example of many key nutrients for which there are no commonly available assays, let's take a look at phosphatidyl choline (PC). Because it is part of the membrane sandwich (along with the right fatty acids and other nutrients), it is one of the reasons some people will never get better: because no one recommended it.

PC is readily lost from the body with the work of detoxification. Even Boston marathon runners drop their levels by a third after a race. Since beans are one of the best sources but not a popular food, many are deficient.

Hence, insufficient PC in detox (endoplasmic reticulum) membranes can keep you forever toxic. On the flip side, correcting PC has reduced chemical sensitivity, brain fog, reversed early Alzheimer's, and improved high cholesterol, heart disease and a mountain of conditions. It is indispensable for healing the alcoholic's liver (Kidd).

There is one source that is unsurpassed by all others: Phos Chol (American Lecithin), taken as the licorice-flavored liquid, 1 tablespoon or the capsules, Phos Chol 900, 3 a day is tops. Don't let failure to boost this nutrient at least once a month every year be a contributing cause for your healing to be stalled.

Above all, be sure that you have medical guidance, for you can also sweat out medications, hormones, and a multitude of nutrients for which we do not have tests, as well as speed the absorption of injected medications, like insulin. Furthermore, you need someone to counsel you if you react to the

mobilized chemicals if they pass through the blood stream on their way out. This side effect however, is more common with regular high temperature saunas, whereas it is rare with the far infrared sauna. Also with high temperature saunas sometimes the person does not have sufficient ability to completely detoxify chemicals and they get stuck or sent to another target organ.

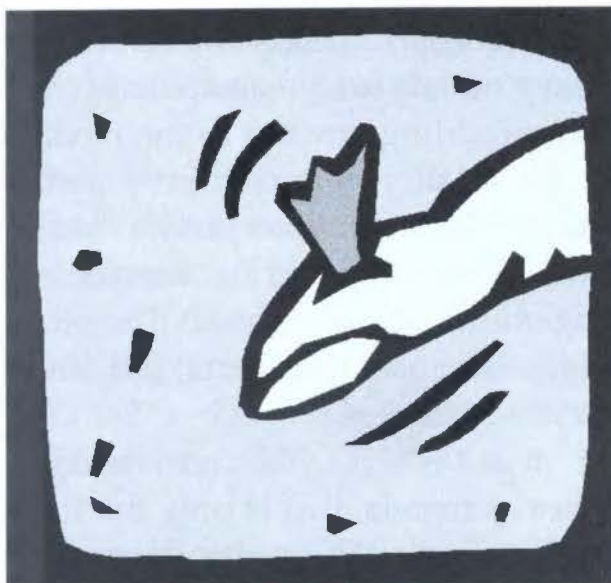
Furthermore, an undiagnosed intestinal absorption problem, as from Candida or the leaky gut, could lead to mineral depletion that could trigger cardiac arrhythmia, a heart attack, a stroke or even a seizure. Clearly if you have gas, bloating, indigestion or other gut symptoms, you want to have a **Comprehensive Digestive and Stool Analysis** done. Having an initial assay of your detox capability, and later monitoring your minerals clearly limits unwanted surprises.

Sure, many people have successfully done the far infrared sauna program by themselves, with no levels and very few nutrients, but no one knows what surprises lurk beneath your skin. You are much too precious to lose. (If you need more help in diagnosing and treating your gut problems, read *No More Heartburn.*)

Laboratory Tests

Following are the laboratory tests I use in general order of importance for most folks. These are available through MetaMetrix. Have your doctor write the name of the test on a prescription, then call the 800 number for the lab and request that particular kit. Take the kit to the laboratory of your choice and have the blood drawn (or put urine or stool in at home, depending upon the test; read the directions as soon as

you receive the kit). Your doctor will receive the results to review with you and you can also request a copy of the results from your doctor for yourself or to share with other consulting physicians (i.e., I have personal phone consultations available for non-patients who want to brainstorm about their condition, options, and/or lab results).



If you have a splinter in your finger do you take a pain pill? Then why not remove the chemicals and correct the nutrient deficiencies that cause all disease?

RBC Minerals/Heavy Metals

This blood test determines whether you are deficient in calcium, chromium, copper, magnesium, manganese, molybdenum, potassium, selenium, vanadium, or zinc. It also shows toxic elements/heavy metals of aluminum, cadmium, lead and mercury. If you can only afford one test, I consider this the single most important one. Since you know the sauna is going to accelerate your loss of some nutrients, you had

best be sure of which ones are already low, so that you can correct them before starting a sauna. MetaMetrix, 1-800-221-4640.

Caution: You do not want to be in the low normal range for minerals, but midrange or high normal. This is because the average person, on which tests are based, is not extremely healthy but only average. Likewise do not be fooled by a low level of toxic heavy metals for 3 reasons:

(1) The total toxics (adding one bar to the next, to the next, to the next to get the totality of toxic heavy metals) is a better indicator of what is lurking in your body.

(2) The real "normal" level would be zero for everything, but there are no longer any normal people. Therefore, the norm is already too high, because it reflects the unwanted heavy metals that everybody carries.

(3) Remember that when you are looking at a few representative heavy metals, this is only the tip of the iceberg in terms of total toxins. There are scores of other heavy metals that are not in the assay.

Because the life of the red blood cell is three months, checking the RBC minerals and heavy metals every 3 to 4 months is important in the beginning of your sauna experience, so you can learn how to adjust your nutrients to avoid deficiency.

Fatty Acids

This test will show whether you are deficient in any fatty acids, precisely how deficient you are, and what needs supplementing. Furthermore it shows whether you have too many trans fatty acids onboard from "partially hydrogenated" oils. You should attempt to cut all trans fatty acid processed

foods out of your diet. There's no reason to have hydrogenated soybean oil ever. Fatty acids are the main components of the brain and of all cell membranes. The outside cell membrane is analogous to the computer keyboard of the body and is responsible for all the actions of the cell including being a docking sites for hormones and neurotransmitters that determine our energy and moods. Furthermore, the detoxification membranes must be made out of the right fatty acids before we can properly detoxify the body.

If EPA is low, use a tablespoon of Carlson Cod Liver Oil daily for several months until it is corrected. If DHA is low, use one or two Carlson Super DHA 500 mg daily. If DGLA is low, use Borage GLA-240 (Jarrow) or Borage Oil (Pure Encapsulations), 1-2 a day. These are the most common deficiencies. MetaMetrix 1-800-221-4640.

Detoxification Capacity Profile

This test shows how well your body detoxifies chemicals. No test looks at all of the pathways. This one looks at the key detoxifying paths. If glucuronidation is low, it can be improved with two IndolPlex (Tyler) twice a day and/or the calcium-D-glucarate two twice a day; if glycination is low use two Glycine 500 mg twice a day; if sulfation is low use MSM 500 mg 2 twice a day and taurine 500 mg (Paint & Stress Center) 2 twice a day; and if glutathione conjugation is low rev up your Recancostat (Tyler) or Reduced L-Glutathione (Klaire) to 400-800 mg two to four times a day and/or NAC 500 mg or ThioNAC (Jarrow) to two twice daily. There are many other things to do, but using the guidelines here will be sufficient for most. MetaMetrix 1-800-221-4640.

Organic Acids

“Where do I start?” This dynamite test measures 40 metabolites in the urine. In tough cases it is imperative, for it shows us where we need to focus first. For example, if the metabolites from uninvited gut organisms are highest, you should clean out the gut first, even if there are no gut symptoms.

If the organic acids show abnormal B vitamin metabolism, supplement your intake heavily, starting with one B Complete (Carlson, 100 mg) a day. As well, consider jump-starting the system with B12 absorbed under the tongue, Methylcobalamin 1 mg (Jarrow) once a day. This by-passes the stomach and may negate the need for injections. Likewise, add one Folic acid 1 mg (Thorne) and 2 Pyridoxal-5-phosphate (Klaire) once or twice a day.

The test is very easy because you don't even have to go to the laboratory for blood drawing. Obtain your prescription, call for the kit, follow the directions by putting your urine in the provided container, call the 800 number for pickup, and you have done your part. The importance of qualifying organic acids in the urine is to show what chemistry to begin your focus on. For example, being too high in lactate or hydroxymethyl-glutarate suggests a coenzyme Q10 deficiency, while too high pyruvate can suggest vitamin B1 and lipoic acid deficiencies, whereas an elevated methylmalonic acid suggests a B-12 deficiency.

Organic acids like low sulfate and pyroglutamate relate to how much glutathione your body can make for detoxification. Other markers like elevated hydroxybenzoate suggests you have abnormal bacteria growing in the gut, while elevated

citro-maleate, tartarate, arabinose or beta-ketoglutarate suggest you have unidentified yeasts like Candida lurking in the gut, leaving their metabolic calling cards in your urine. Sometimes this is the only clue to invading yeasts.

Information about many other pathways, like those that produce energy, brain neurotransmitters for happy moods, or metabolize fatty acids is also evident from these organic acids. If you or your doctor are a little hesitant about being able to interpret such a comprehensive test, don't worry because the laboratory provides a written interpretive guide with the report, as well as making available consultations with their most knowledgeable staff. MetaMetrix 1-800-221-4640.



In order to fix the problem, you need to know what is broken, what is missing, for example, from your detox cell membranes. This makes the RBC minerals and fatty acid analyses an indispensable first step.

As well as the interpretive guides, there is an excellent book for physicians and lay people who want to know much more

about how these truly modern tests work in isolating the causes and cures of disease. Just because medicine's guidelines try to convince physicians that every disease is a deficiency of some drug, you and your physician don't have to fall for that. You have entered the era of molecular medicine, which has been in existence for decades. There is no better time to actually look at what is broken in the body and fix it. For we now have the best tools ever, starting with these state-of-the-art MetaMetrix tests. If your doctor wants to give you the best interpretation and recommendations for your laboratory results, he needs *Laboratory Evaluations in Molecular Medicine*, and gently urge him not to be afraid of the title (Bralley JA, Lord RS, *Laboratory Evaluations in Molecular Medicine*, MetaMetrix Clinical Laboratory, 4855 Peachtree Industrial Boulevard, Suite 201, Norcross GA 30092, 1-800-221-4640).

I have to laugh when people ask me if I do alternative, herbal, acupuncture, or holistic medicine. "No," I reply. "We do state-of-the-art medicine. In other words we find the biochemical, nutritional and environmental causes and cures rather than blindly drugging everything. Sure, herbs are gentler, safer and more physiologic than drugs, acupuncture opens blocked meridians, and holistic attempts to incorporate many diverse non-medical modalities, etc. But there is no substitute for finding the underlying biochemical causes and cures. This is *real* medicine. This is where medicine should and would have been decades ago, if it had not been abducted by the pharmaceutical industry."

Digestive and Microbial Stool Panel

If you have any intestinal symptoms, then this test, the Digestive and Microbial Stool Panel, is imperative for identifying abnormal bugs lurking in the gut that are inflaming the detoxication pathways, not to mention impairing absorption of nutrients. For a much more thorough discussion on how to eradicate yeasts like *Candida albicans*, and correct any abnormalities in the gut and stool assays, see *No More Heartburn*. For even better diagnostic accuracy, the addition of **Parasitology** provides even more information to this indispensable basic stool study.

And if they are both negative but you still suspect yeast overgrowth, order the **Intestinal Metabolic Markers**. This identifies organic acids that could only be in your urine if there were certain bacteria, protozoa or yeasts in your gut making them. For certain organic acids are unique to these organisms, and human beings do not make them in this quantity. This test is indispensable when *Candida* is elusive and resists diagnosis by all other tests (MetaMetrix).

Estronex Test

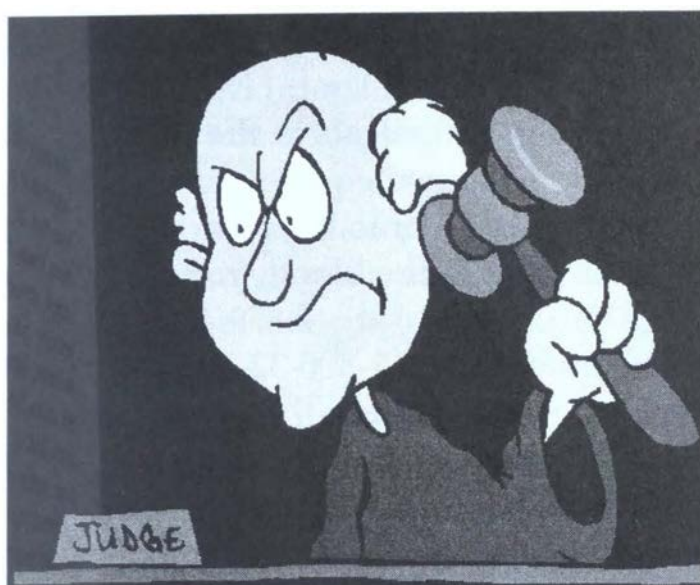
This test is absolutely essential if you are on any birth control or hormone replacement therapy, as it shows if you are metabolizing your estrogens into the bad (16-hydroxyestrone) estrogen metabolites that potentiate cancer. If so, then you want to use IndolPlex two twice a day and repeat the test. If it is still elevated, you may want to first decide if you think it is really necessary to take this drug or whether you would prefer to find the real underlying cause of your symptoms.

This test is also important for men and children, as well as women not on birth control or hormone replacement therapy, since there are progressively more unavoidable environmental hormone mimics among our everyday chemicals. For example, estrogen and other hormone mimics (disguised as pesticides, plastic wrap, plastic bottles, prescription medications, detergents and much more) promote head and neck cancers (Yoo) and prostate cancers, as well as breast cancers (Bradlow). For children, the environmental estrogen mimics interfere with physical as well as mental growth and development, future fertility and much more. Environmental chemicals even interfere with testosterone production in adult males, thereby making them more vulnerable for heart attack.

The test is inexpensive and extremely simple to do at home (first morning urine collection). Taking all these factors into consideration, and the fact that there is no other test that comes as close to defining the actual cancer risk for environmental as well as prescribed hormones and hormone mimics, there is no question. Everyone should have this test (MetaMetrix).

Lipid Peroxides

This test can be done on serum, urine or both for proof that your diet, environment or both are damaging you and accelerating aging. Lipid peroxidation is a measure of the fact that something is causing free radicals to eat holes in your cell membranes, and the by-products of this are what is measured. So if you are better after a day at home, but worse after a day at work, it shows there is something in that environment that is aging you and leading you toward disease (MetaMetrix).



In this era of molecular medicine, there is no excuse for prescribing potentially carcinogenic hormone replacement therapy without doing the Estronex test. This is the most simple state-of-the-art urine test, done at home, to show if your hormone replacement or unavoidable environmental estrogens are triggering the chemistry of cancer, learning disability, birth defects, heart disease, precocious puberty, infertility, and much more.

ION Test

This test is undoubtedly the best bargain in all of medicine for the simple reason that it combines 10 tests into one, yet it is less than a third of the total price of what all these tests would cost if added together. It is the most amazing test available in medicine that I know of, for it measures over 130 nutritional factors including vitamins, minerals, fatty acids, amino acids, lipid peroxides, homocysteine, coenzyme Q10, glutathione, lipid peroxides, organic acids, and intestinal metabolic markers. All this for less than \$600 (MetaMetrix). This is a great test, but because it is so comprehensive and difficult to

interpret (I usually spend an hour with the patient), it is lower on my scale of what to get first.

Testing Chemicals in the Blood

For identifying volatile organic hydrocarbons, pesticides and other foreign chemicals in the blood, your doctor can contact Accu Chem Laboratory at 1-800-451-0016 or Pacific Toxicology Laboratories at 1-800-32-TOXIC. Personally, I wouldn't spend the money, since the government has already proven that 100% of us harbor carcinogens. I would prefer to spend my money getting them out of me! Obviously, if you have the financial ability, however, it is great to get proof for medical-legal-insurance reasons.

Home Tests (No Prescription Needed)

For a measure of lipid peroxidation (glutaraldehyde), a simple nonprescription urine test is offered by VesPro at 1-800-438-4894. Call the 800 number and test your urine at home. If it turns a pink color, you have way too many free radicals attacking and damaging your cell membranes. To rule out whether it is your evening meal, you might skip it for one night and measure your first morning urine. If you are negative for lipid peroxidation in the morning, then see what a simpler, whole foods, evening meal would do, such as a salad and fruit plate. Or you might be sure to take your detox cocktail before bed and see if that is sufficient to sop up the free radicals.

It is crucial to figure out what you need to do to make the test turn out negative in the morning. You don't want free

radicals burning holes in your cell membranes all night while you are innocently sleeping. This is the time for healing, not damage. If you get stuck, don't forget that the gut is a huge storehouse for unsuspected free radicals and you might need to go back and review the chapters regarding detoxification of the gut. This very quick and simple home urine test is great for showing you whether you are accelerating aging and disease in your sleep, or are pushing your chemistry toward repair and rejuvenation.



The standard laboratory tests look at a person's blood count, liver and kidney functions, cholesterol, sugar, thyroid, etc. But you have to ask for RBC minerals and fatty acids. If your doctor doesn't do them, you're in the wrong office.

Future Tests

Soon there will be simple collections of sweat available that can be done at home and may also not need your doctor's prescription. They can simultaneously measure what nasty chemicals and needed nutrients are being gotten rid of. Stay tuned to the monthly *Total Wellness* newsletter for details of

this and many more new tests, especially non-prescription ones for the consumer, as well as new tests that can be ordered by your physician, chiropractor, naturopath or other health professional.

Directions for Community Saunas

If you cannot afford a personal home sauna, consider interesting your local church, YMCA, health club, firehouse, dentist, chiropractor, physician, naturopath, or other type of therapist or civic organization in purchasing one. A far infrared sauna (models vary from accommodating 2 to 5 people) can be easily installed.

You would not need access to a shower (it's great to have one for emergency but it does not have to be used routinely), nor do you have to start a laundry service for towels. And if folks follow the rules below, there should be little concern about inexperienced or uneducated people having serious side effects like severe muscle cramps, cardiac arrhythmia, a heart attack, stroke, or seizure. Each person allowed in the sauna should be required to abide by the following rules:

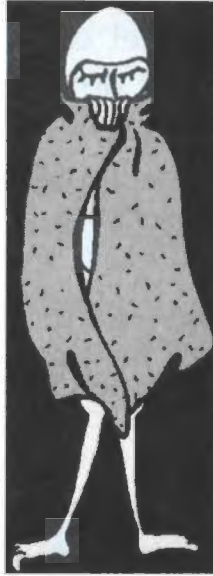
- Wear a bathing suit under a cotton jogging suit.
- Bring this book or *Pain Free In 6 Weeks* (no uneducated or unmotivated people allowed, but only those willing to be intelligently responsible).
- Bring at least two liters or two quarts of good water (from the home reverse osmosis, distillation, alkaline water machine, or carbon block filter) in glass bottles. Since commercial spring water in glass is very difficult to find, buy anything in glass (carbonated spring water) just so you have the glass bottles.

- Bring at least 4 bath towels: 1 to sit on, one on the floor under your feet,, and two to continually towel off the sweat.
- As you continually towel off the sweat, once you have saturated a towel, toss it out the door of the sauna into a trash bag that you have brought for soggy used towels.
- Either bring your sauna replenishment nutrients or take them just before leaving home.
- Bring your detox cocktail, or take it as soon as you get home if you will be there within 20 minutes.
- Bring your emergency nutrients. Bare minimum a powdered or liquid form of magnesium, Tri-Salts, detox cocktail, Potassium Citrate, and Multiple Minerals (Carlson's liquid minerals in capsules).
- Bring food for afterwards, even if it is just a piece of fruit
- Bring whatever else you might need to entertain yourself, waterproof books, tapes or CDs.

If these guidelines are followed for a community sauna, it should weed out the folks who are looking for someone to take care of them and decreases the chances of adverse reactions. As well, it makes it unnecessary to have showers and dripping bodies traipsing through the facility, and negates the need for a laundry service to take care of the enormous amount of towels that are generated.

Most importantly, as folks continually towel off in the sauna, they remove the chemicals that are coming out from the skin, that could contaminate the sauna and contaminate other people in it. As well, when someone has been continually toweling off chemicals through sweat, there is often very little need for a shower. They are clean! They can comfortably put

their cotton jogging suit back on over the wet bathing suit for driving home.



Continual toweling off is essential for permanently getting rid of toxins, as well as minimizing contaminating other people in the sauna with you.

Special Uses for the FIR

You realize the FIR package in this book is the closest we can probably get to the fountain of youth, restoring our bodies to a level of contamination we had decades prior. And you've seen the evidence for how it has reversed countless symptoms and diseases, even undiagnosable ones without a label.

But don't forget that prior to getting pregnant is one of the most important times of a lifetime to clean out. And this includes the father-to-be as well as the mother-to-be. I won't swamp you with more evidence, but infertility and birth defects are at an all time high.

Next would be folks living or working near 9/11's Ground Zero for a few weeks or more. Please clean out before you get cancer, auto-immune disease, allergies, cardiovascular, gastrointestinal, respiratory, neurologic, or endocrine dysfunction over the next few decades. Just the lead release alone (about 4 pounds per computer monitor) was enough to drop the I.Q. of everyone in sight. Then there was the major release of all the stuff banned since the Towers' construction, like PCBs and asbestos. The same goes for Gulf War victims and folks who now realize that through hobbies, vacations, silicone implants, occupations, childhood, etc., they've tanked up on some pretty scary stuff. And don't forget kids who have had Ritalin for ADD, for it causes a multitude of problems in adult life. Obviously, those with resistant chronic fatigue, fibromyalgia, chemical sensitivity, etc. need the program too, as well as any diagnostic label. But you must get a cancer under good control before moving stored poisons. Do not do this without guidance and detox repair first.

The last group I want to remind you of are drug addicts, alcoholics, and folks institutionalized for brain malfunction, especially after many prescription drugs. The residues must be gotten rid of in order to halt cravings. And don't forget the folks who cannot lose weight. Plastizers and pesticides gum up the works for hormone receptors. A clean body (with restored nutrient reserve) is able to metabolize unwanted fat properly.

QRS: Boosting Your Body's Battery

As the oldest of eight children from a poor family, I have always been looking for inexpensive natural, God-given

cures. As a result, for years I have been drawn to the macrobiotic diet and have written extensively on how to do it (for explicit details start with *You Are What You Ate*, then progress to *The Cure Is In the Kitchen*). Folks have classically reversed end-stage cancers after everything that medicine has to offer has failed, and then gone on to write their autobiographies.

For example, Elaine Nussbaum is very healthy and active 22 years after having been told she had but two weeks to live when her wildly metastatic cancer of the ovaries had spread to the lungs, liver, and backbones. She wrote her story in the book, *Recovery* (Japan Publications or at prestigepublishing.com). And epidemiologists at Tulane Medical School have proven that the macrobiotic diet more than triples survival in the face of some of the worst and most "incurable" cancers. For more details and references I refer readers to *Total Wellness 1999-2002*.

Since then I have spent a couple of decades scouring the molecular biochemistry literature. I documented how researchers from Harvard, Johns Hopkins, and other highly prestigious medical centers throughout the world have proven how phytochemicals and nutrients in God-given foods are able to reverse cancers and other serious diseases, even when everything that medicine has to offer has failed. I have presented this scientific evidence to hundreds of physicians at Oxford University and to thousands of other physicians in various medical symposia in Canada and throughout the United States. Clearly I am a fan of natural healing modalities.

But unfortunately as I have painfully learned in over three decades of medicine, we have so poisoned our bodies in this

era that we often *need extraordinary means to heal extraordinary damages*. For example, I would love to have folks just be able to do the macrobiotic diet, the whole foods diet, or carnivore diet to heal. But because we have so depleted our nutritional status, most folks need assays of their RBC mineral levels and fatty acids, so we can properly correct their deficiencies. Then the good food can be properly metabolized to help them. Others need even further assays. Meanwhile, you now can appreciate, as I do, why - - -

High Tech Pollution Requires High Tech Solutions

You can understand from this background why I was so reluctant to explore the far infrared sauna. It was too high-tech, I initially thought. Also as a person who had severe chemical sensitivity at one time, which included a poisoned autonomic nervous system, I did not sweat at all! So a sauna was the last place that you would ever catch me. But once I collected the overwhelming evidence for it, I realized that I had to do it and it was one of the best choices in my life.

Now my detox system is so revved up that if I so much as have a glass of wine or two with friends, I often break out in a sweat. My body works overtime getting rid of any toxins I've put into it immediately. I don't even have to be in the sauna to sweat. And when I play tennis with friends, a small amount of exercise will prime my sweating and detox mechanisms. While everyone else ranges from dry to minimally perspiring, I am literally dripping with sweat and have soaked clothes (a source of much joking I might add).



We have so polluted our environment and bodies that many folks require extreme measures in order to get well. Clearly high tech pollution requires high tech solutions.

So when along came the QRS, I immediately put it on the back shelf in terms of interest, because of its expense and complicated nature. It was too high-tech for my liking or understanding. My father, although he never finished high school, was a strong-willed, self-taught man fascinated by electronics. I recall when I was 8 he said there was an exciting new invention, a radio with pictures. Although they were far too expensive for us, he had figured out how to make one. I vividly recall watching Howdy Doody on a green and black (no black and white yet!) cathode ray tube.

So by the time I was 15, due to my father's innate brilliance, I had a general class ham radio operator's license. In my 1958 examination class of 45 adult male electrical engineers, I was not only the youngest, but the only female. More unusual was that only 40% of us passed the examination, which

required drawing schematic diagrams of rectifiers, amplifiers and translating Morse code at 13 words per minute.

In spite of this early fortunate background in electricity, I now find myself sorely lacking in knowledge of the electricity of the body, which hampered my desire to learn about the QRS even more. But as history repeats itself, after I had all of the science behind the QRS under my belt, there was no way I could deny anyone the benefit of knowing about it. I have to tell you of its enormous contribution to healing.

Injury and Healing Generate Electricity

So let me make it as simple as possible. You know that the difference between you and me alive versus you and me dead is that the electricity has stopped flowing. The EKG and EEG are flat. We have the exact same composite of chemicals, but the flow of electrons has ceased. The living body is electrical in nature, since being alive requires electrons to be continually flowing in and out of our cell membranes. In fact we capitalize on this electricity by measuring the flow of electricity in the heart with the EKG or electrocardiogram. We measure the electricity of the brain with the EEG or electroencephalogram. We measure the electricity in a muscle with the electromyogram or EMG. And we define death as absence of electrical signals.

Years ago physiologists measured other currents that were generated in living animals. First they found there was a measurable "current of injury" generated after they cut off salamanders' tails. There was likewise a measurable current of healing. Next they wondered if they could accelerate healing by duplicating and modifying this current. As it turned out

they not only speeded healing, but they caused total regeneration of a new tail. Soon they learned how the frequency, direction, pattern, and strength of the fields were very important for obtaining maximum regeneration.



Just as we can correct nutrient and detox deficiencies, the QRS (with pulsed electromagnetic fields) can correct electrical deficiencies.

But these researchers had a much more magnanimous goal in mind than re-growing amputated salamander tails. For out of these experiments came work that allowed orthopedic surgeons to heal non-union fractures with pulsed electromagnetic fields. One of the worst problems in orthopedics (the specialty of bones and joint surgery) is a non-union fracture. In other words, x-ray-proven fractures sometimes just do not heal. This is very prevalent with auto accidents and in wartime soldiers.

Months and sometimes years later, x-rays confirm no healing has taken place; there has been no union of the two ends of bone. This is extremely scary because it can end in serious osteomyelitis (infection) from which the person can die. And as long as the two ends of broken bones are not united, the limb is useless. But by placing the non-union fracture in a pulsating electromagnetic field, bones have healed. Many of these cases of non-union fractures were of years' duration, having failed surgery, pins, metal plates, casts, braces and all sorts of immobilization and stabilization.



Non-union fractures that have resisted knitting together for years, in spite of metal plates, pins, and casts, have healed with pulsed electromagnetic fields.

After these successes, orthopedic surgeons tried specific pulsating electromagnetic fields on all sorts of other painful diagnoses. Electromagnetic fields were successfully used to heal tennis elbow, elbow and heel tendinitis, osteoarthritic knees, calcified shoulder tendinitis, rotator cuff tendinitis and

even reverse osteoporosis of the hips and spine. As well, there has been marked improvement in healing damaged or severed nerves (Rusovan, McDevitt, Raji, Wilson, Sisken, Jacobson, Subramanian), as well as amelioration of Parkinson's disease (Sandyk) and multiple sclerosis (Sandyk).

Osteoporosis Cured With Pulsed Electromagnetic Fields

With more than 20 million people with osteoporosis alone in the United States, it makes it imperative that folks should know about this safe, natural, effective cure. For we have no other medical cure for osteoporosis. Sure we can put people on a lifetime of estrogens or estrogen mimics like Evista, or on Fosamax and other biphosphonates that can cause a myriad of side effects and don't restore the missing minerals to bone. All of these drugs merely, once again, turn off a normal pathway, this time of breaking down and then rebuilding new bone. They make it so that you don't normally break down and remodel bones, but you merely keep the same old bone.

With this physiology in mind where normal bone turnover is halted, I wonder if it will increase the storage of cancer causing cadmium and other heavy metals that notoriously deposit in bone. Studies (TW 2002) already point toward increased cancers with these drugs. And with millions of Americans taking NSAIDs daily, osteoporosis and the need for hip and knee replacements will continue to flourish even more. For these medications, by stopping the body from making new joint cartilage (they inhibit glycosaminoglycan synthesis), cause a steady deterioration of joints, eventually requiring joint replacement (Shield).

Anyway in spite of all of this knowledge I was still skeptical until I got tennis elbow (lateral epicondylitis) again. Having had it numerous times, I knew it was a sign of poor tennis technique, and that I needed more lessons. I also knew I would be in for agonizing pain for the next six months no matter what I did, since stopping tennis is never an option. You can imagine my surprise when within 24 hours the pain was completely gone. I have tested this on five other separate occasions, and every time the QRS has come through within hours or two days maximum. This is unheard of in medicine. At least I thought it was until I came across papers 20 years old showing that far-thinking physicians have been doing this all along for not only elbows, but ankles, knees, and shoulders (Lee, Binder, Pilla, Devereaux, Pennington). Next I read a personal report from a Harvard medical school faculty physician in her 40s with resistant osteoporosis. She improved her continually deteriorating bone scan 6% in less than a year with using the QRS. She was ecstatic, since nothing else had worked before this.

The **Quantron Resonance System (QRS)** (High Tech Health, 1-800-794-5355) is the result of German technology. There are currently four ways to treat the body with this pulsed electromagnetic devise, with more on the way.

- (1) There is a pen-like applicator (which I used right on the olecranon bursa for tennis elbow, and have used it successfully on teeth roots when they have been traumatized).
- (2) There is also an applicator pad for small areas like the elbow, shoulder, back, feet or the heart, for example.
- (3) A full-body mattress is available for general whole body regeneration as well as for promoting a restful sleep.

(4) There's also a chair.

Briefly, each one of these comes with a control box that has ten different settings. If you want to go for the maximum health, I would certainly recommend adding the QRS to your anti-aging plan. In addition, the whole family can benefit, plus you have it to use forever.

An instruction booklet accompanies the QRS, giving guidelines for which of the ten settings is appropriate for various conditions. As an example, for pinpoint pain such as tennis elbow or a painful tooth after biting on something hard, use the pen applicator on the point at setting #10. Do three 8 minute sessions three times a day. If you are worse in any respect, you'll need to back off to a lower and tolerable setting. I suggest you also buy the inexpensive EMF meter, the Cell Sensor, so you know whether you have hooked it up properly. You can also measure electrical activity around your house.

For a sprained back, shoulder, knee or ankle, the pad is more convenient. For osteoporosis of the hips, use the entire mattress. The dose tolerated by many would be one or two 8 minute sessions in the morning, one or two 8 minute sessions in the afternoon, and one or two 8 minute sessions in the evening. How much time you spend depends on how fast you want to correct your condition, and how damaged you are. Many report reversing osteoporosis with only eight minutes twice a day for 4-8 months. Meanwhile, some need to do only 1-2 settings on #1 before bed to stimulate the brain waves of relaxation. This is also useful in the middle of the night if you awaken with insomnia.



We diagnose death by a loss of electricity. You can boost your electricity while you're still alive and use it to promote healing of non-union fractures, damaged cartilage, nerves and tendons, persistent non-healing, open skin ulcers, osteoporosis, sports injuries, rescuing deteriorating teeth roots, and much more.

As with any modalities, there is huge individual variation. Although I have never seen them, I bet there are people who could only tolerate two minutes at #1. Therefore just as with a sauna, there are folks who will have to use very short times initially and build up. However I would not suggest anyone use the QRS for pain relief if they have not first read *Pain Free In 6 Weeks*. There's no point in trying to clear pain that you are unknowingly triggering every day, for example by eating hidden nightshades. Also I wouldn't bother doing it unless you had first corrected your red blood cell minerals and fatty acids. It works a lot better and faster when folks have healthy cell membranes and have replenished crucial trace minerals that you'll learn about.

I must also warn you however, that the pad and mattress are vinyl and very smelly. This was another enormous turn off for me initially and because of this, I thought that I would never use it. Again I was wrong, but I did have to leave it outdoors to outgas for a month. I also place a cotton beach towel over the mattress just for comfort.

The beauty of the QRS, as with the sauna, is that there is no time lost, for you can read, listen or watch instructive material. I absolutely adore getting healthier and not having to waste any time doing it.

How Does the QRS Work?

The body is made up of all types of cells, each having their specialized functions. Muscle cells conduct electricity and contract causing movement, nerve cells conduct electricity and transmit chemical messages to turn on adjacent cells, which could be thyroid cells to secrete hormone or liver cells to detoxify a chemical. Because cells are all very unique, I'm going to talk about a generic average cell, which of course doesn't exist. But basically a cell has a membrane or an envelope surrounding it to hold its guts in.

When that membrane gets damaged, by eating trans fatty acids, accumulating heavy metals or plasticizers, or having deficiencies of minerals or fatty acids like DHA, the cell membrane leaks. This can cause body swelling (edema) or fluid retention. If the leaking is really bad, the guts spill out and the cell dies. Swelling or edema isn't the only manifestation of damaged cell membranes. Since the cell membrane houses all of the receptors for communication with every other cell in the body, it is like the Internet of the body.

Anything can go wrong once the communication system is damaged.

Because the cell membrane is constructed like a sandwich with fatty acids on either side and proteins in the middle, it also has an electrical charge across the inner and outer membranes. The potential across the average cell membrane is -70 mV . But once cell membranes become bogged down with chemicals or nutrient deficiencies, the trans-membrane potential (the difference in electrical charge from the inside to the outside of the cell membrane) can swing the other way to as much as $+30\text{ mV}$. This happens, for example, in pain syndromes, old age, swelling either from injury or inflammation, and in most disease states, including cancers. Applying a pulsed magnetic field to a painful site can bring the membrane potential way down to a hyper-polarization level of better than normal, about -90 mV . This makes it more difficult for a pain signal to be detected, and therefore, much less effective in causing pain.

In one study, over 45% of patients showed good results for control of pain, and mind you no one was doing a nightshade-free diet, which should have provided a much higher percentage improvement (Paccagnella). In other studies, the QRS worked better than oxygen protocols (working where they had failed) in opening the diameter of blood vessels and improved ulcers (Leran, Stiller) and wound healing (Kloth, Brighton, Im, Canady). This in turn improved blood flow, bringing precious nutrients to speed healing and diminish pain (Warnke). Researchers even included horses in this study and improved their cardiovascular performance as well. Just about every condition you can think of has been improved with pulsed electromagnetic fields, because you are

coming down to a fundamental correction of damaged body physiology (Brighton).



Take a peek into the future of medicine: we have gone from potions and pills to molecular biochemistry and environmental toxicology, and now to energy medicine. It actually started as hard science 20 years ago with healing of non-union fractures with PEMF at Columbia University, spreading then to major medical centers across the U.S. and world.

It would take several books just on QRS to detail all of the research. One particularly good starting place for interested physicians would be the book that has chapters by physicians from NIH, MIT, Johns Hopkins, Columbia College of Physicians and Surgeons, and more (Blank). These folks have done a wonderful job explaining how the calcium channels that sit in the lipid sandwich of the cell membrane are really pores lined by proteins. These proteins and fatty acids are not static, but like all living things, are moving or oscillating. These oscillations not only can be characterized by frequencies, but have harmonics that can change the

alignment and activities of the proteins that govern how much calcium, for example, moves in and out of the cell. This is exciting, because it proves **we can control biochemical and cellular function with electromagnetic energy.**

Why do so many folks end up with knee surgery after they tear a cartilage? Remember the cartilage from adult humans has no blood vessels, no nerves and no lymphatics. It has a sparse nutritional supply that is primarily derived from the joint fluid. As well, glucosamine sulfate, silicon, water, and much more are needed to modify the regeneration of this vital substance (see *Pain Free In 6 Weeks* for even more detail when needed).

Also calcium flow is a crucial part of this regeneration, and pulsed electromagnetic fields (which is what the QRS provides) work in part by facilitating calcium flow through calcium channels in cell membranes (McLeod, Grande). Likewise highly charged proteo-glycan molecules (which make up the ground substance or the "stuff" in between cells) are critical for translating the messages from mechanical forces into cell growth. Equally important, these GAG substances that hold cells together are the major communication link between all cells. The QRS works through all these vital areas to normalize charge and chemistry and ultimately accelerate healing (Trillo).

Clearly, all of this chemistry really comes down to electricity as the primary force determining the movement of calcium in and out of cells. Where it finally goes in the body and governs most crucial functions like nerve transmission, bone healing, and general energy (Blank, Brighton, Madronero). Nothing else is comparable. Pulsed electromagnetic fields are

so beneficial that they have also improved the ability of chemotherapy to kill cancer cells (Omote), and to strengthen the immune system (Walleczek).

Regeneration With Electromagnetic Fields

Dr. Bob Becker, an orthopedic surgeon by training, is one of the pioneers in helping the world understand the uses of electromagnetic fields. When I was just in medical school 37 years ago, his lab was right across the hall from my room in the VA Hospital (where I got room and board for covering the analytical chemistry laboratory every sixth night). He identified the measurable electric current of injury, learned how to duplicate this current, and actually improved upon it, finding its harmonics (Becker, Lednev). With this knowledge he and colleagues figured out how to heal non-union fractures in humans, an especially common problem post wartime. Two decades later pulsed electromagnetic fields have salvaged thousands of limbs that would have been amputated, become a source for lethal infection, or otherwise ruined lives through disability.

Dr. C.A.L. Bassett from Columbia Presbyterian Medical College in New York published numerous papers on the success of pulsed electromagnetic fields in healing non-union fractures in the '70s, carrying on this work for decades. In fact, they had an 80% success rate with over 6000 surgeons country-wide, and no patients suffered complications or biological side effects. Electromagnetic fields have accomplished what nothing in surgery or medicine could, and without side effects.

Let's take a peek at how the other important application, reversing and preventing epidemic osteoporosis, works. When bone is not subjected to physical stress or weight bearing, it starts to lose its minerals and osteoporosis results. It is known that patients who lay in bed too long will develop osteoporosis. When Russians first sent astronauts into space, they were surprised that they came back with osteoporosis because they had no longer been under the influence of the earth's magnetic and gravitational fields. It became clear to scientists that even the earth's magnetic field, as small as it is, is absolutely vital in preventing osteoporosis.

Hundreds of papers show us a variety of other QRS mechanisms. Basically you can dissect the body down into its organs or you can analyze the body down to its chemical level. Or you can go one step further and take it to its electrical level. For example, just as the heart, muscles and brain have their own internal electrical systems that we measure in medicine, so does bone have an electrical nature.

Bone has a special **piezo-electricity** (Fukada, Brighton). In other words, the molecular structure of bone is such that when we put stress on it, as in standing, tiny electric currents are generated which actually help us to continually make new bone. The electricity is translated into the language of chemistry that creates continual bone growth and renewal. That's why folks who are bedridden for long periods of time lose bone and develop osteoporosis, and why astronauts in the early days before this was discovered, would come home from an atmosphere of no gravity with osteoporosis. There was no gravitational stress to turn on the piezo-electric cycle.



Just as PEMF has kept astronauts from developing osteoporosis when outside of the earth's electromagnetic fields, it has prevented and even healed osteoporosis in earthlings.

Many researchers since then have shown that just as the harmony of a barbershop quartet or orchestra enhances a tune, harmonics of pulsed electromagnetic frequencies can enhance diverse biological functions (Ledlev, Hinsenkamp). They have identified harmonics or resonance frequencies that control the alignment of proteins in cell membrane channels, thus becoming a gate for controlling cell functions, especially swelling and pain. At the same time improved cellular function promotes healing.

One of the nastiest conditions in medicine is when high doses of steroids are used for serious arthritis pain, colitis, or other auto-immune diseases. Sometimes the side effects of steroids (prednisone) is that the tiny femoral artery (that feeds the neck of the long thigh bone ending in the hip) dies. The artery

in the neck of the ball that fits into the hip joint literally rots away. Without this ball and socket connection for the long thigh bone, the person can no longer stand. Other things that can damage this besides steroids is alcohol use, sickle cell disease and of course trauma or injury.

But pulsed electromagnetic fields have improved and reversed this deterioration. In one study (Bassett, 1989), 87% of the folks with osteonecrosis of the femoral head were progressing to the point that they would need an artificial joint. When the pulsed electromagnetic fields were used, this dropped to 16%. In other words, 71% of patients with aseptic or a vascular necrosis of the femoral head were healed and spared hip replacement (and these were folks who had a high potential for failure).

One of the many QRS mechanisms involves release of calcium from membranes (Azanza, Ryaby) and because it does work on calcium, the QRS has also been used to improve calcifications of arteries and heart valves (Madronero). Likewise, folks tear shoulder tissues and develop calcifications, limiting motion. But tendonitis of the rotator cuff in the shoulder has been improved with QRS (Binder), as has multiple sclerosis (Guseo), as well as hip osteoporosis and osteonecrosis (Aaron). Even folks who have had a hip replacement that has become loose have tightened up with the QRS, stimulating new bone growth (Rispoli, Kennedy, MacDonald). And some of these in clinical trials were performed double-blind so there could be no doubt (Bassett). They were spared surgery through “energy” medicine.

Once you understand that electricity is one of the basic mechanisms for regenerating and healing the body, it opens

up a plethora of potential uses. Doctors have improved fibromyalgia (Colbert), persistent neck pain and whiplash (Foley-Noland), and healed resistant skin ulcers (Leran, Stiller, Salzberg), a big problem especially in diabetics and bedridden folks. They have improved postpolio syndrome (Vallbona), delayed union of leg fractures (Sharrard), even when infected (Rinaldi), and reduced swelling and speeded healing of fractures (Pennington, Pilla), promoted healing of lumbar fusions (Mooney), and improved the pain of osteoarthritis (Trock) with pulsed electromagnetic fields.



Every part of the body has an electrical system, but we only measure a couple of them, like the heart and brain.

Along with improving wound healing (Kloth) and the growth of new blood vessels (Yen-Patton), they have found that they can even cause **regeneration or new growth of nerves that have been injured** (Greenbaum, Sisken, Weintraub, Rusovan, McDevitt, Wilson, Raji). This has brought a wonderful new

lease on life for those who had given up any hope of healing. Often these are folks who through surgery, accidents, or metabolic illness have lost the use of a specific nerve, like the sciatic nerve. The QRS has caused regeneration and healing of nerves thought to be irreparably damaged. But once again I must stress that to expect a miracle from something like the QRS every time in extremely difficult cases amounts to uneducated optimism. But what a heightened chance of success you could expect if at first you corrected body nutrient deficiencies, gut overload, detox deficiencies, and got rid of a lifetime accumulation of damaging chemicals. Never lose sight of the total body burden of stressors that contribute to a problem.

Harmonic Healing and Resonance Rejuvenation

In the QRS a conventional current is changed to a DC current and pulsed at a field strength of 0.1 gauss to 0.4 gauss, depending upon the setting you choose. The earth's magnetic field strength is 0.5 gauss, so they are very similar yet weaker. That's why there have never been any notable side effects. The World Health Organization has classified anything under one gauss as very safe. The adjustable frequency of pulsations (ten choices of settings, more with newer models) ranges from 3 (used for relaxation) to 200 (used for regeneration) cycles per second with eight other levels in between. An important feature is that the positivity/negativity flips three times every eight minutes so that the body does not become acclimated to it and it does not lose its effectiveness.

The QRS works maximally at a field strength of 30 microteslas. The World Health Organization and other technical associations consider a constant load of 100

microteslas (at 50 Hz) as safe. The top setting of 10 is 30 uT, while the lowest setting of 1 is 0.3 uT. The field of the applicator pen (for small joints, pinpoint pain in bursas, teeth, etc.) can also replace laser for stimulation of acupuncture points.

I have personally used it a multitude of times with all sorts of sports injuries and have been highly impressed. Just as the voluminous papers that I have cited relate, others report improvement of tennis elbows, shoulder bursitis and osteoporosis, painful teeth, and much more. And you can well imagine that it might be useful for cancers and indeed researchers found that pulsating magnetic fields can increase the natural killer cells that the body makes to fight off cancer (Malter).

The sad thing, after I had researched the QRS extensively, was the thought of all of the folks in nursing homes who never had the benefit of this to heal their fractured hips, decubitus ulcers and osteoporosis. Clearly, a QRS mattress in hospital beds could be therapeutic as well as prophylactic for disease and osteoporosis (Cruess, Skerry).

Think of people who have damaged nerves from auto accidents or surgery, for example, who do not know that they have a chance at regeneration (Rusovan, Raji, McDevitt, Wilson). Or think about the horrible spinal cord damage from accidents that have left folks paralyzed, or those with non-healing leg ulcers, slow healing burns and much more. Or look at the people suffering the side effects of osteoporosis (Rubin) medications when they could have prevented it on the QRS mat. Obviously all hospital beds should have a QRS

built into them to prevent osteoporosis and bed sores, much less to promote speedier healing and recovery.



All the high-priced prescriptions in the world cannot heal osteoporosis, rotator cuff shoulder tears, or tennis elbow as efficiently as the QRS, and there are no side effects.

Clearly the QRS can be a wonderful component to your anti-aging, accelerated healing, and detoxification program, as it heals injuries quickly, prevents osteoporosis (Rubin) as well as heals it, and helps to make the body in general more disease resistant. But I do not feel it is a first line item, but rather an advanced stage for fine-tuning health. Before considering the QRS, I would suggest the following:

- if you have any pain, especially arthritic in nature, that you should read *Pain Free In 6 Weeks* **first** and at least do the nightshade-free diet

- follow the far infrared detox protocol in this book to clear the body of chemicals that impair health
- bare minimum have your red blood cell minerals, fatty acids, and detoxification capability analyzed and corrected
- be on a whole foods diet
- take 100-200 mg of magnesium in one or preferably two glasses of chemically clean water with 5-10 drops of BioSil twice a day just prior to your QRS. This improves the ability to electrically improve your cell membrane functions. Because so many functions of the body depend upon magnesium and silicon, still remember to keep your daily total of magnesium between 200-600 mg and your total daily dose of BioSil to 20 drops or less.

Silicon for the "Spark of Life"

Remember the first radios? They used quartz (silicon) crystals to receive radio waves and translate them into audio waves. Likewise **silicon** (sand, quartz) is crucial for translating different physical forces, via piezo-electric chemistry in bone, into chemical actions which lead to the growth of bone. **Silicon, acting as a semiconductor in the piezoelectric chemistry of bone**, is a crucial element needed for synthesis or remodeling of bone. In other words, it is the critical element that allows for translation of physical weight or physical stress (via the earth's electromagnetic and gravitational fields) into the electrical message that directs the biochemistry that makes new bone.

Now you can begin to appreciate why the millions of folks who do not include the only bioavailable form of silicon (orthosilicic acid) in their osteoporosis program will never heal. This is a major reason why medicine thinks it is

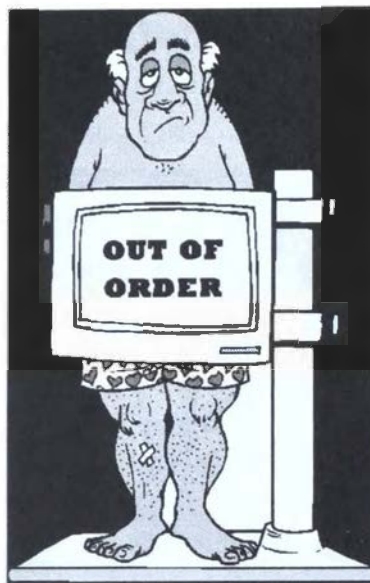
impossible to heal osteoporosis and designates it as a Fosamax or Evista deficiency. Or what about the weakened weekend warriors who keep tearing, straining, spraining and breaking various body parts? They need to restore youthful elasticity and tensile strength to their cartilaginous surfaces, ligaments and tendons to avoid being so prone to damage. Silicon is often the missing secret ingredient.

Some of the first positive body signs when you replace silicon is stronger hair and nails. But there are many more important uses for it in the body. Look at all the people who are losing teeth, because the tiny ligaments that anchor the teeth are slowly becoming depleted of silicon. Look at all the people who slug down enormous amounts of calcium in attempt to correct or forestall osteoporosis, only to have that calcium turn against them and cause calcification or hardening of the arteries, arteriosclerosis, gallstones, calcified breast cysts, or kidney stones. For without sufficient silicon in the bone, you can pour calcium in until the cows come home and you won't make the kind of strong bones needed to prevent the dreaded hip fractures of the aged. Indeed silicon is one of the missing ingredients for folks who have been unable to correct osteoporosis.

Look at the people who have blown out brain vessels with strokes that leave them paralyzed for their remaining years in some nursing home or who died suddenly of a ruptured aortic aneurysm. Why do these vessels get so weak that they finally rupture or blow out? Lack of silicon is one of the many reasons. In fact **silicon is like a Teflon coating for arteries** and makes them more resistant to rupture, to developing arteriosclerosis and the accumulation of cholesterol plaque.

Silicon also strengthens the connective tissue, slowing down the sags, bags and wrinkles so common with aging. For silicon is not just limited to being the communication link between weight bearing or physical stress on bone to create a chemically strong bone. Silicon is not only the communication link to create strong tendons and arteries, but is also the key to strong connective tissue. This is the material that actually holds the body together, and the "stuff" that also allows all cells to communicate with every single other cell within the body.

This "stuff" is called glucosaminoglycans. I like to abbreviate it GAGs, and I guess that word would sort of gag anyone. But these GAGs are more important than you can imagine, because they are the Internet of the body. For example, one of the first things to go bad in cancer cells is the communication system. Once the communication between cells is shot, cells grow and metastasize wildly. There is no feedback communication to limit their unrestricted growth. Silicon in the glucosaminoglycans between cells is a critical part of our bodies' communication systems. One aspect of silicon's communication is its ability to be the semiconductor, the transducer, the interpreter. As one example, silicon translates pressure or physical stress into the chemistry of making new bone.



*Current medicine is powerless to detect energy defects. They just know there is something wrong, but have no idea how to repair it. Bioavailable silicon is one of the first steps to repairing the electrical communication system of the body. Whether making bone, preventing hair or teeth loss, healing from surgery or orthopedic injuries, or trying to avoid a heart attack, stroke, aneurysm, wrinkles, or cancer, you cannot do without **Biosil**.*

When you think of silicon you probably think of Silicon Valley and silicon semiconductor properties, but it is not the exclusive property of the electronics industry. We have our own Silicon Valley right in our bodies, because silicon is not only essential for the structure of the body, but also for our own internal electrical conductivity. The difference between you and I dead or alive is merely the fact that the electricity is gone. We are the same bunch of chemicals, but "the spark of life" has been extinguished. No longer can anyone measure the electricity in our hearts with an EKG or the electricity in our brains with an EEG. The body depends upon silicon as one of several trace elements for its generation of this spark of life. Just because magnesium is absolutely crucial for healing,

don't neglect trace elements that are rarely thought of like silicon.



Just as your computer won't work without silicon, neither will your body. But because the diet is notoriously poor in silicon, you have no recourse but to supplement it.

Are you recovering from surgery? Trying to heal osteoporosis? Worried about having a stroke or heart attack? Concerned about slowing down wrinkling of your skin and thin breakable hair strands? Do you have some loose teeth? Or have you lost the spark of life? Silicon, a forgotten natural and essential mineral, is crucial for building strong bones, blood vessels, skin, nails, hair and teeth ligaments.

Silicon even protects against the absorption of aluminum, which can lead to Alzheimer's. And you get plenty of aluminum every time you eat out. They use aluminum cookware, plus salt and baking powder are laced with it. For aluminum trisilicate keeps salt, sugar and other powdered

granules from sticking together. Aluminum is also a residue in factory foods from aluminum machinery, and it is even in the coffee machine. In the brain, aluminum slowly builds up and causes neurofibrillary tangles resulting in Alzheimer's disease. But silicon can bind aluminum, preventing its absorption and the resulting senile brain.

Clearly silicon slows arteriosclerosis by acting like a *teflon coating for arteries*, for it makes the skin hold more hydroxyproline, an amino acid needed to prevent premature deterioration, wrinkling, and sagging. And you frankly cannot completely regenerate bone and cartilage without sufficient silicon. Lack of inclusion of silicon into bone-building formulations is a paramount reason for their failure. It is one of the many reasons why the mere recommendation of calcium (which actually promotes arteriosclerosis, pathological calcifications, and aging) is such an abysmal failure at stopping or correcting osteoporosis.

The ridiculous current recommendation of 1500 milligrams of calcium today merely causes it to be deposited in arteries and accelerate arteriosclerosis and aging. Without advising folks about also boosting all the other minerals that are in harmony with calcium in bone, the calcium has insufficient minerals to bind it to bone. In fact, if you are at a standstill with trying to repair osteoporosis, have a non-union fracture that just won't heal or an unstable joint, have recurrent sports injuries, loose teeth, or have trouble with a bone graft or loosening of your joint replacement, remember to incorporate sufficient silicon into your program.

Next to oxygen, silicon is the earth's most abundant element. But since it comes from sand, you can imagine how easily

absorbed it must be. By far the best absorbed form of silicon is **BioSil** (Jarrow). As stabilized orthosilicic acid, BioSil is the most highly biologically active form of silicon I have yet to find. You get about 250% more absorption than from any other form.

Use 10-20 drops in any amount of water once or twice a day. You can even add it to your detox cocktail. You will probably see the first results in stronger fingernails within a few weeks, a readily visible barometer of tissue strength. And once you see this change, it is a sure sign that your body needed it. Give yourself the only strength test there is for silicon adequacy by seeing if a 3-6 month trial produces any other noticeable differences. For the great news is that when you see the change in your nails, you can rest assured that other unseen tissues benefited as well, especially your electrical system.

Hydrate II

For those who prefer a homeopathic, Hydrate II (BioActive Nutritionals) contains silica in the form of equisetum, combined with germanium, another trace mineral transducer. It also contains ginkgo biloba to improve mitochondrial (cell energy) function and hypericum to boost immune function. Use 10 drops in non-acidic juice like apple, watermelon or pear, once or twice a day. I just put it in my alkaline water. It works even better if you add Lymph Tonic III (BioActive Nutritionals), 10 drops under the tongue 3 times a day. This has caused beautiful cleansing of lymphatics, manifested, for example, by periodic thick colored mucus from non-infected sinuses (a cleansing).

The Total Load

Don't be scared off by all of the options I've given you. The solution can be exceedingly simple. Many folks can do the sauna for an hour a day taking a multiple vitamin-mineral, extra Liquid Multiple Minerals, magnesium, Zinc Balance, Coral Calcium, Tri-Salts and the detox cocktail. Carrot juicing a couple of times a day also floods the body (including the gut) with potassium as well as anti-oxidant carotenoids. And remember that the detox program becomes even less worrisome if you are going to have your mineral balance checked every 3-6 months, and fatty acids every 6-12 months.

But since I'm addressing such a wide spectrum of individuals, I must make sure you understand the total load. For the total package of overload in your body determines how much you must do in order to unload your system sufficiently, to enable your body to heal itself. For starters, if the gut isn't healthy, you'll be indefinitely stalled for complete healing. This is because the gut houses over half the immune system and over half of the detoxification system for the entire body. If what I've written here is not sufficient to heal your gut, refer to *No More Heartburn*, which gives much more detail for the entire gastrointestinal system.

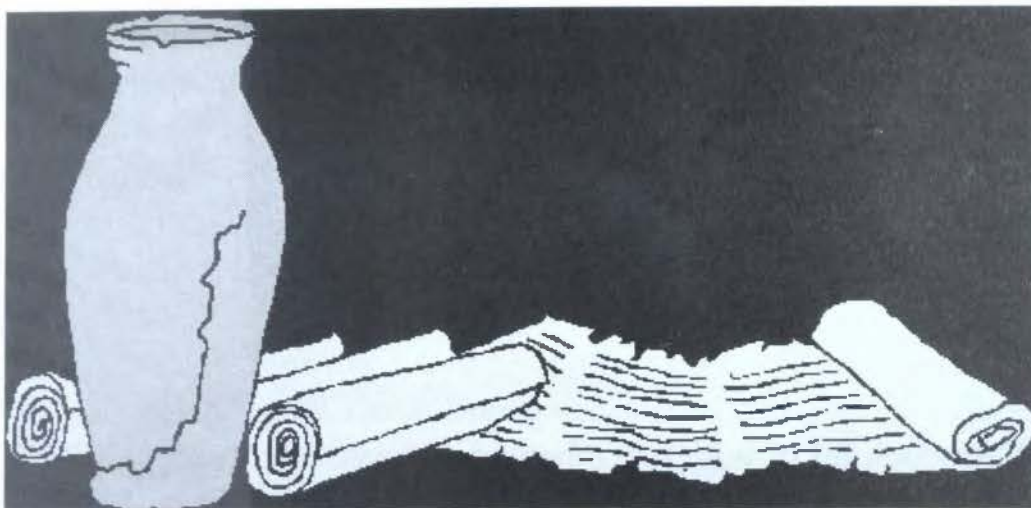
Likewise if you are knocking yourself out to get rid of harbored chemicals, but you have a contaminated environment that is tanking you up faster than you can get rid of them, you can indefinitely stall success. *The E. I. Syndrome, Tired Or Toxic?* and *Chemical Sensitivity* will guide you. And if you have cancer, there is so much more you need to know and do. I would suggest starting with *Wellness Against All Odds*, then progressing to *You Are What You Ate*,

followed by *The Cure Is In the Kitchen* and *Macro Mellow*. If you have chronic pain of any sort, *Pain Free In 6 Weeks* may provide a startlingly easy cure.

Depression Cured At Last! describes the total load of environmental, nutritional, and metabolic triggers for all diseases, using depression as an example. For it is not only the blueprint for figuring out the causes and cures for every brain disorder, but for all disease. *The Scientific Basis for Selected Environmental Medicine Techniques* provides even more information, especially for physicians.

More importantly, there are critically important modalities that neither I nor anyone else have yet to write about that may be necessary for turning back the hands of time for you. For those who stay tuned to the monthly referenced newsletter, *Total Wellness*, they will find the exciting answers. I can't wait to tell you about them! I can't write fast enough! In the meantime we do have scheduled phone consultations for folks who are not our patients, but cannot wait and would like to brainstorm personally with me.

And last, but never least, as it says in the *Bible*, "Neither do men pour new wine into old wineskins" (Mt 9:17). What good is it to have a clean, detoxified body but a trashed, toxic soul? As an integral part of the total load, there is a huge reservoir of information substantiating how pivotal mental attitude, psyche, and our individual belief systems are for healing. I have seen folks heal the impossible after detoxing their souls.



"Neither do men pour new wine into old wineskins" (Mt 9:17). What good is it to have a clean body but a trashed soul?

On the flip side, I've seen the opposite phenomenon in over 32 years of medical practice. Folks burdened with anger, hatred, jealousy, hurt, shame, and other health-robbing emotions are indefinitely stalled for healing, until they can rise above and forgive. Genuine forgiveness appears to be critical for dissolving damaging emotions that can retard healing indefinitely. Remember that foremost, "a cheerful heart is good medicine" (Proverbs 17: 22). "Forgive, and you will be forgiven. Give, and it will be given to you. A good measure, pressed down, shaken together and running over, will be poured into your lap. For with the measure you use, it will be measured to you." (Lk 6: 38)

For me personally, *The Holy Bible* (King James Version) has been a literal and figurative Godsend. If it makes no sense and the reading is difficult, start with my favorite book that I have read over seven times, *Adventuring Through the Bible*, by

Ray Stedman (Discovery House Publishers, 1-800-653-8333). Or to explain the Biblical miracles and mysteries, *The Scientific Approach to Christianity* and *The Scientific Approach to Biblical Mysteries* (New Leaf Press, PO Box 311, Green Forest AR 72638). And if you are really intent upon healing the impossible, you will discover many other suggestions in the spirituality section at the end of *Depression Cured At Last!*.

It may appear to the uninitiated that I am merely out to sell books. The fact is, I was gifted with over 20 incurable diagnoses, all of which are healed. I have devoted my life to trying to figure out the causes and cures for disease. I could be retired now, but as the oldest of eight children from a poor family, my goal is to progressively bring this knowledge to a level where even more precious people can benefit. For each of us must "use whatever gift he has received to serve others," (I Peter 4:10).

In an era out of control, ruled by ironclad forces with unhealthy agendas, I have no unrealistic goal of fame or fortune, but am intent upon providing the life-saving information I have learned to help others who are ready to use it. That's why we have no mass marketing and I do not align myself with big fancy publishers or PR agents, and we have never accepted paid advertisements in any books or newsletters. I believe in the old adage, that when the student is ready, the teacher appears. And "Seek and you will find" (Matt. 7: 7).



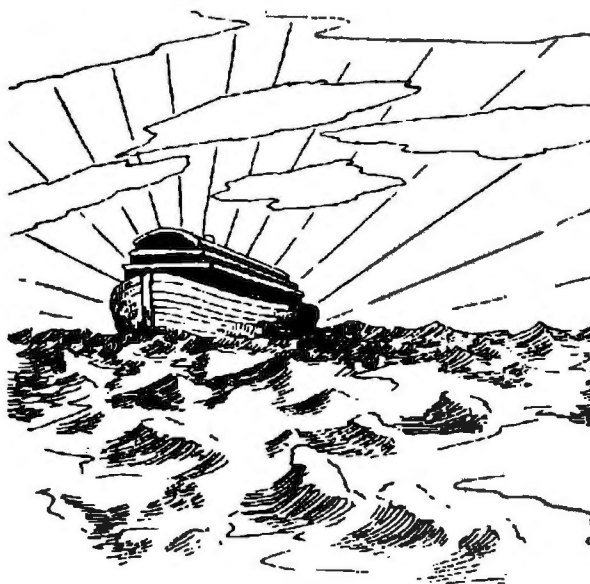
This may be your last chance to heal yourself.

Then there are those who might shrug me off as a tree hugger or whale saver. But remember they "speak abusively against whatever they do not understand " (Ju 1:10). Currently, over 27% of the dead white whales recovered from the St. Lawrence River bordering picturesque New England and beautiful Canada have cancer (Martineau). Interestingly, dead whales have the *same* percentage of cancer that dead humans do, for we are all a product of our polluted environments.

I hope this abbreviated tome gives you a small appreciation for the magnificence of the natural, God-given healing capability that has been programmed in you. I hope it has instilled in you an appreciation for the awesome power you have over your health. For each day you are silently called upon to exercise decisions that will lead to your getting either healthier or not. The tough part is you are surrounded by medical authorities who fail to comprehend the power you

have. Their major solutions for your every symptom is a drug.

Above all, remember that the more one studies molecular biochemistry, the more convinced he must be of the presence of a Master Biochemist who has absolutely and miraculously designed the human body to heal, against all odds. In that case, shouldn't you make it a top priority to know more about this Master Biochemist?



Are you ready to heal the impossible? Is anything impossible? You think we physicians are gods and you could never do more for your health than we could? Remember, the Ark was built by amateurs, while the Titanic was built by professionals. The Ark is frozen intact in a glacier high on a treeless mountaintop. The Titanic is disintegrating in the bottom of the ocean.

In closing, remember from the Bible how Eve was duped by the serpent into disobeying God's commands? He gave bad advice.

"Now the serpent was more crafty than any of the wild animals the Lord God had made. He said to the woman, "Did God really say, ' You must not eat from any tree in the garden'?" (Genesis 3: 1).



"The serpent deceived me"

Later that day, "the Lord God said to the woman, ' What is this you have done?'"

"The woman said, ' The serpent deceived me, and I ate.'" (Genesis 3: 13).

Is it a coincidence that the caduceus symbol for organized, drug oriented medicine is a winged staff with two serpents entwined? For I humbly submit to you to consider that the serpent is **still** deceiving us.



The serpent is still deceiving us.

Chapter VI

Resources

I'll just bet you were getting pretty worried in previous chapters about where on earth you were going to find some of the wonderfully healing remedies you have learned about. Never fear, chapter VI is here! It has it all.

Sources of Non-Prescription Supplements

N.E.E.D.S. has carried everything I prescribe for over two decades, even difficult to find items and items normally only available through nutritionally trained physicians or only in bulk order. So if a company won't sell a solo bottle of something, check N.E.E.D.S. Often they sell at a lower price than the parent company, anyway, besides being a one-stop opportunity for all your "needs".

N.E.E.D.S.
PO Box 580
E. Syracuse, NY 13057
1-800-634-1380
www.needs.com

The following pharmacies and suppliers have unique products, hard to find products and the first five make custom compounded prescriptions for special needs:

College Pharmacy	1-800-888-9358
Wellness Pharmacy	1-800-227-2627
Apothecure	1-800-969-6601
Abrams Royal Pharmacy	1-800-458-0804
Family Pharmacy	1-888-245-5000
American Environmental Health Foundation	1-800-428-2343

Whole Foods Catalogues

Even if you don't live near a big city or health food store, you can get quality organic and non-GMO whole grains, beans, nuts, seeds, sea vegetables, condiments, and other whole foods from these sources by mail. They ship anywhere.

Natural Lifestyle
16 Lookout Dr
Asheville NC 28804-3330
1-800-752-277
www.natural-lifestyle.com

Kushi Institute Store
P.O.Box 500
Becket MA 01223-0500
1-800-645-8744

For excellent quality fresh and canned seafood use:

Seafood Direct
14522 N.E. North Woodinville Way, #102 A
Woodinville WA 98072
1-800-732-1836
www.buyseafooddirect.com

Tests

(Need to Be Ordered By a Physician)

Note that these labs have many more tests than I have mentioned that would also be of interest.

MetaMetrix Laboratory

4855 Peachtree Ind. Blvd
Suite 201
Norcross GA 30092
1-800-221-4640
fax: 770-446-6259
www.metametrix.com

This lab has important minerals and heavy metals in their panels that most other labs do not offer.

Most of these specialty tests are not available through local or hospital labs.

These tests are essential for state-of-the-art medical Treatment.

Tests Kits:

RBC mineral panel or

Elemental analysis on erythrocytes
(includes chromium, calcium and vanadium which frequently other labs do not do)

Heavy metal panel (includes aluminum which many other labs do not include)

Fatty acid panel

Intestinal Metabolic Markers (can determine if Candida and other gut pathogens

are present even if they do not show on stool study)

ION (Individualized Optimum Nutrition) Panel (a great bargain that Includes many panels at a considerable 60% savings)

Organic acids
(indicates where the starting focus should be, on the gut, minerals, detox pathways, etc.)

Cardiac Profile Panel

IgG4 & IgE food antibody assays

Amino acids

Candida antibodies

Estronex

Comprehensive Detox Panel

Comprehensive Stool and Digestive Panel

Parasitology

SMAC, and much more

Interpretive book: *Laboratory Evaluations
In Molecular Medicine*

ImmunoSciences Lab, Inc.

8693 Wilshire Blvd, Ste 200

Beverly Hills CA 90211

1-800-950-4686

Fax: (310)-657-1053

Email: immunsci@ix.netcom.com

Many other tests: Specialty tests for H pylori antibodies, Candida anti-bodies, sensitivity to environmental chemicals, cancer predisposition and metastases and more.

Chemical antibodies
Natural killer activity
Programmed cell death
(formaldehyde, silicone, etc.)
Food antibodies to human tissues
Candida antibodies to human tissues
Cancer antibodies
Auto-immune antibodies
8-OHdG (metastases)
Tumor necrosis factor
Hs-CRP
H. pylori by PCR
Mycotoxin antibodies

American Environmental Health Foundation

8345 Walnut Hill Lane

Dallas TX, 75231

1-800-428-2343

www.AEHF.com

Analysis of drinking water
Tri-Salts (the preferred form for sauna detox)
Air filters, water filters, products for less toxic living (paints, bedding, books, etc.)

Accu-Chem Labs

990 N. Bowser Rd.

Richardson TX 75081

1-800-451-0016

972-234-5577

Fax: 972-234-5412

[www: accuchemlabs.com](http://www.accuchemlabs.com)

Chemicals stored in body:
Chlorinated and other pesticide panels, heavy metals, volatile organic hydrocarbons and other harbored xenobiotics

Pacific Toxicology Laboratories

6160 Variel Ave

Woodland Hills, CA 91367

1-800-32TOXIC

Fax: 818-598-3116

www.pactox.com

Chemicals stored in body:
Chlorinated and other pesticide panels, heavy metals, volatile organic hydro-carbons and other harbored xenobiotics (foreign chemicals)

"Where Can I Find a Doctor Who Does This Kind of Medicine?"

I am asked this question constantly. An organization comprised of physicians who are geared more toward cause and cure medicine versus drug-driven medicine is listed below. It does not mean that every physician in the organization does all of the things you have learned here; some do more, some do less.

American Academy of Environmental Medicine
7701 E Kellogg ST.
Wichita KS 67207
Phone: 316-684-5500
Fax: 316-684-5709
www.AAEM.com

If you prefer a list of physicians in your area who have actually taken and passed the board examinations for environmental medicine, send a self-addressed, stamped envelope to:

American Board of Environmental Medicine
65 Wehrle Dr.
Buffalo NY 14225

An excellent quality non-profit organization devoted to physician (and lay) education with books, tapes and ACCME-accredited courses, is highly recommended:

Institute for Functional Medicine
4411 Pt. Fosdick Dr NW, Ste 305
Gig Harbor, WA 98335
1-800-228-0622
www.functionalmedicine.org

Environmental Units (Where to go for extended treatment)

Environmental Health Center-Dallas
8345 Walnut Hill Lane, Suite 220
Dallas TX 75231
1-800-428-2341
214-368-4132
www.AEHF.com

Dr. Allan Lieberman
7510 North Forest Dr.
North Charleston, SC 29420
(843) 572-1600
www.COEM.com

Far Infrared Sauna and Products

High Tech Health

2695 Linden Dr.
Boulder CO 80304
1-800-794-5355
303-413-8500
fax: 303-449-9640
www.hightechhealth.com

High Tech Health

Queensland, Australia
1-800-505-108
www.hightechhealth.com.au

Far Infrared Saunas:

Portable, many sizes (from 2-5 people) and different materials such as poplarwood for the chemically sensitive.
FIR hand-held hair dryer
FIR kitchen counter top oven/cooker
FIR Pain Relief Pad
Singer Spring **Alkaline Water** Machine
QRS machines with various mattresses, pads, plus applicator pens and biofeedback regulators
EMF detectors, hand-held and more

Important Nutrients

These fine companies have catalogues that do much more justice to their many products. I've merely listed here some of the key nutrients that have been recommended, difficult to find items, unique items, and/or items of exceptional quality. Request their free catalogs by mentioning this book.

(For companies that do not sell to the public or in small quantities, N.E.E.D.S. (1-800-634-1380), and others carry most items)

Tyler Encapsulations

C/O Integrated Therapeutics

9775 SW Commerce Cir

Suite A6

Wilsonville, OR 97070

1-800-869-9705

Fax: 1-800-380-1819

www.tyler-inc.com

Does not sell to public
(use N.E.E.D.S.)

Recancostat
IndolPlex
Buffered C Powder
Cyto-Redoxin
Betaine HCl
Calcium-D-Glucarate
Osteo Complex
Multiplex-1 without iron
Cal-Mag-K
Chela-Max
Potassium Chela-Max
Mag-K Chela-Max
Detoxification Factors
OxyPerm
Mercury Detox
Alcohol Detox
Bromelain
Multiple Minerals, chelated
Magnesium Glycinate Plus
Eskimo-3
Fiber Formula
Permeability Factors
Similase
MethylMax
Niacinol
Poly-C, and more

Pain & Stress Center

5282 Medical Dr, #160

San Antonio TX 78229

1-800-669-2256

www.psctr@stic.net

Magnesium chloride solution,
85 mg/cc
5-HTP (tryptophan)
Lipoic Acid 300 mg (this is
Metabolic Maintenance my
favorite)
Any products from Metabolic
Maintenance
MSM
Wobenzyme
Magnesium Citrate 500 mg
MSM Cream or Lotion
18% Magnesium Chloride Solution
(100mg/tsp)
Cal Mag Zinc Complex
Potassium Citrate
Glucosamine Sulfate
Chromium
Vanadium
DHEA
Taurine
Arginine
Glycine
GABA
CoQ10
NAC
Huperzine A
Manganese Picolinate
Melatonin
Carnitine
Liquid Serotonin
Alpha Keto-Glutaric Acid
P-5-P
L-Glutamine
Super Glutamine 100 mg
Selenium
B6 (pyridoxine)
and much more

Wakunaga of America

23501 Madero

Mission Viejo CA 92691

1-800-825-7888

1-800-421-2998

www.kyolic.com

Kyolic Capsules

Kyolic Liquid

Kyo-Dophilus

Kyo-Green

Ginkgo-Go

Kyo-Chrom, and more

You can get free samples of Kyo-Greens,
Kyolic and Kyodophilus from the above
number if you mention this book.

Carlson Laboratories

15 College Dr.

Arlington Hts, IL 60004

1-800-323-4141

1-888-234-5656

www.carlsonlabs.com[email: carlson@carlsonlabs.com](mailto:carlson@carlsonlabs.com)

Liquid Multiple Minerals

(in capsules)

E-Gems Elite

Tocotrienols

Cod Liver Oil (purest, most
mercury- free form I have found)

Cod Liver Oil Capsules

Super DHA 500 mg

Mild-C Crystals

ACES Gold

Aloe Gold

B Compleet 100

Glutathione Boosters

Heartbeat Elite

Niacinamide

Niacin (B3)

CoQ10 200 mg

Potassium

Liquid Magnesium 400 mg

(in capsules)

Vitamin C Crystals

Individual chelated minerals

Chewable Glucosamine

Sulfate 500 mg

Lycopene 15 mg (tomato-free)

Phosphatidyl Serine

Scooter Rabbit Multi for Kids

And much more

Metagenics International, Inc.

P.O. Box 1729
5800 Soundview Dr.
Gig Harbor WA 98335
1-800-843-9660
www.metagenics.com

UltraInflamX
UltraClear
Ultra Fiber
and much more

Does not sell to the public use N.E.E.D.S.,
or use:

Metagenics

725 S Kirkman Rd.
Orlando FL 32811
1-800-647-6100
Fax: 407-445-0204
www.teamapn.com

Klabin Marketing

2067 Broadway,
Ste 700
NY, NY 10023
1-800-933-9440
(212)-877-3632
Fax: 212-580-4329

Pro-Boost Thymic Protein A
Total-Gest (enzymes)
TMG
MSM
ImmPower, and more

Metabolic Maintenance

68994 North Pine St.
Box 3600
Sister OR 97759
1-800-772-7873
Fax: (541) 549-3299
www.metablicmaintenance.com

Use Pain & Stress Center

Lipoic Acid 300 mg (my favorite
form, non-night shade)
Magnesium Citrate 500 mg
GLA-240
Bromelain 750 mg
Vitamin C Powder
Calcium:Magnesium Citrate
(100:100)
Potassium Citrate
SAmE
L-Carnitine
Glycine, powder and capsules
P-5-P
EPO 500 mg
Borage Oil 1000 mg, continued next
page

Metabolic Maintenance

This company puts high quality nutrients in dark glass bottles to protect you from phthalates and protect nutrients from light-induced deterioration. Does not sell to public, but products can be obtained from the Pain & Stress Center, 1-800-669-CALM

Silymarin (Milk Thistle, 300 mg)
Magnesium
Rebuild Osteoporosis
Formula
NAC (600 mg)
D, L-Phenylalanine (750 mg)
with B6
Taurine (500 mg)
5-HTP
Buffered Vitamin C Powder
K/Mg Aspartate (99 mg)
K/Mg Citrate (99:125 mg)
Zinc Picolinate (30 mg)
and much more

Jarrow

1824 S. Robertson Blvd
Los Angeles CA 90035
1-800-726-0886
1-800-890-8955
www.jarrow.com

BioSil (best form of silicon)
Bone Up (special osteoporosis
calcium apaptite formula)
Thio NAC (for detox)
L-Carnitine
Jarrow-Dophilus
L-Glutamine
Bromelain
L-Arginine
Quercitin
Magnesium Citrate + K + Taurine
MSM
TMG
SAMe
Pycnogenol
Methylcobalamin 1 mg sublingual
(best B12)
TRUE CMO
Saccharomyces Boulardii
Vanadyl
and much more: get catalog

Pure Encapsulations

490 Boston Post Rd.

Sudbury MA 01776

1-800-753-2277

Fax: 888-783-2277

www.purecaps.com

NAC 1000

Magnesium Citrate (150 mg)

CoQ10 500 mg

Bovine Cartilage 500 mg

L-Carnitine

Bromelain

Silymarin 250 mg

Curcumin 250 mg

L-Carnitine

Lactobacillus sporogenes

5-HTP

Lipoic Acid

Iodine

Boron

and much more

Thorne

25820 Highway 2 West

P.O. Box 25

Dover, ID 83825

1-800-228-1966

208-263-1337

fax: 208-265-2488

[e-mail: info@thorne.com](mailto:info@thorne.com)

www.thorne.com

Captomer

Folacal

Boron

Pure Ascorbic Acid Powder

Magnesium Aspartate

Magnesium Citrate

Molybdenum Picolinate

Manganese Picolinate

L-Glutamine

Biogest

Betaine HCl

M.F. Bromelain

Basic Nutrients II

Super EPA

Undecyn

Quercenase, Quercetone

Iodine

Potassium citrate

Potassium Aspartate

P-5-P

Copper Aspartate

Copper Citrate

continued next page

Thorne

(Continued from previous page)

Zinc Picolinate
CoQ10
Glucosamine Sulfate
Vanoxyl
5-HTP
Non-Hydrolyzed Whey (poor
man's glutathione)
and much more

American Lecithin Co.

115 Hurley Rd., Unit 2B
Oxford CT 06478
1-800-364-4416
(203)-262-7100
Fax: 203-262-7101
www.americanlecithin.com

PhosChol Concentrate
(purest, most concentrated
form of phosphatidyl choline
for rebuilding membranes)
PhosChol 900 capsules

American Biologics

1180 Walnut Ave
Chula Vista CA, 91911
800-227-4473
Fax: 619-429-8004
www.americanbiologics.com

Infla-Zyme
Dioxychlor
DC3
AB-C
and much more

BioTech

Box 1992
Fayetteville AR 72702
1-800-345-1199
fax: 501-443-5643
www.bio-tech-pharm.com

10% discount if you mention
this book.

Tri-Salts (for sauna)
Cesium
Boron
Bromase
Thisilyn (silymarin for detox)
PCN-200
Lithate
Deanol/DNZ
Bio Throid (natural thyroid)
and much more

Emerson Ecologics

18 Lomar Park
Pepperell, MA 01463
800-240-9912
800-654-4432
www.mmspro.com

Thisilyn Pro (140 mg)
Efamol's Evening Primrose Oil
(Carries products from many
nutrient companies)

Proper Nutrition

PO Box 13905
Reading PA 19612
1-800-247-5656/1-800-555-8868
www.propernutrition.com

SeaVive
Sea Cure, and more

Klaire Laboratories

140 Marine View Ave
Suite 110
Solano Beach, CA 92075
1-800-859-8358
858-350-7880
Fax: 858-350-7883

Pancreas (beef, lamb, pork)
Ultra Fine Ascorbic Acid
Powder (my favorite)
Taurine
Vital 10
Vital Plex
Culturelle
B6 250 mg
Alpha Ketoglutaric Acid
and much more

Kate Fiedler

1-877-343-3537
(860)434-9249
[Email: katfiedler@aol.com](mailto:katfiedler@aol.com)

Microhydrin
MSM with Microhydrin

Vital Nutrition

14902 Preston Rd, Ste 215
Dallas, TX 75254
1-800-875-8658
www.vital-nutrition.com

Natural Calm (Magnesium citrate
205 mg/tsp.)
Essential Formulas (probiotic)
Macadamia nut oil
Kyolic products
Manipole products
Books
Tapes of radio shows with
certified nutritionist, host Martie
Whittek and guest Sherry A.
Rogers, M.D.
and much more

Bio Active Nutritional, Inc.

1803 N. Wickham Rd, Ste 6
Melbourne FL 32935
1-800-288-9525
www.bioactive-us.com

Does not sell to the public,
but products sold through:

Natural Healing Network

1-800-922-6577
www.drrosefischer.com

Hydrate II
Lymph Tonic III
Thymic Protein A
Melatonin 3 mg
Melatonin sublingual spray
DHEA
Bio ProBiotic
Acetyl-L-Carnitine
Bio Green
Bio Mer Detox
Cilantro Plus
CoQ10 25 mg Plus
Brain Cell Respirator
Bio-Adrenal Plus
Saccharomyces Boulardii
Mito Neuro Plus
and many more, including
unique homeopathic
formulations

Products For a Cleaner Environment
Air Purifiers For Home, Office, and Car

E.L.Foust
P.O. Box 105
Elmhurst IL 60126
1-800-EL-FOUST
1-800-353-6878

Test Your Daily Drinking Water

Call for price and information about sending a sample of your water for analysis for undesirable contaminants that hold back health. Also water filters, air filters, safer paints and products for construction and furnishings, toiletries, supplements, health books and products for pesticide alternatives, cotton products and many other catalog items for a healthier home environment.

American Environmental
Health Foundation
8345 Walnut Hill Lane
Dallas TX, 75231
1-800-428-2343
www.ehcd.com

Alkaline Water, Singer Spring

High Tech Health
2695 Linden Drive
Boulder CO 80304
1-800-794-5355
www.hightechhealth.com

Mineral Waters

Water Oz

Rte 1, Box 104-B
Grangeville ID 83530
1-800-547-2294
Fax: 1-800-544-1897
www.wateroz.com

Magnesium
Lithium
Calcium
Platinum
Multiple Minerals
and other special waters

Mountain Valley

Mountain Valley Spring Co.
PO Box 1610
Hot Spr. Nat'l Park, AR 71902
1-800-643-1501
Fax: 501-623-5135
www.mountainvalleyspring.com

Glass-bottled spring water

In general the purest, best
tolerated, readily available glass-
bottled water.

Cotton Pillows

Avoid sleeping with your head nestled in foam pillows outgassing standard levels of formaldehyde, fire retardants and pesticides all night.

KB Cotton Pillows, Inc.

1-800-544-3752
Fax: (888)-829-5292
P.O. Box 57
DeSoto TX 75123
www.kbcottonpillows.com

Cotton Bedding, Mattresses and Some Clothes

Janice Corp.

198 Rte 46
Budd Lake NJ 07828
1-800-JANICES
Fax: 973-691-5459
www.janices.com

**Environmentally Safer Products, Cleansers, Clothing,
Paints, Furnishings, Bedding, Depollution Appliances,
Cooking Utensils and More**

**American Environmental
Health Foundation**

8345 Walnut Hill Lane

Dallas TX 75231

1-800-428-2343

www.ehcd.com

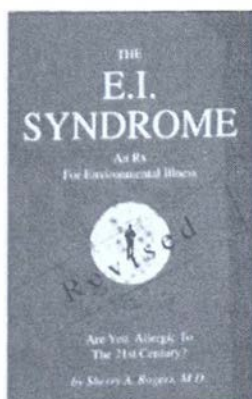
Natural Lifestyle

16 Lookout Dr.

Asheville NC 28804-3330

800-752-2775

www.natural-lifestyle.com

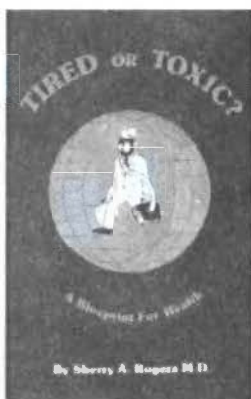


The E.I. Syndrome, Revised is a 635 page book that is necessary for people with **environmental illness**. It explains chemical, food, mold, and Candida sensitivities, nutritional deficiencies, testing methods and how to do the various environmental controls and diets in order to get well.

Many docs buy this by the hundreds and make them mandatory reading for patients, as it contains many pearls about getting well that are not found anywhere else. In this way it increases the fun of practicing medicine, because patients are on a higher educational level and office time is more productive for more sophisticated levels of wellness. It covers hundreds of facts that make the difference between E.I. victims versus E.I. conquerors. It helps patients become active partners in their care and thereby get better results, while avoiding doctor burn-out. It covers the gamut of the diagnosis and treatment of environmentally induced symptoms.

Because the physician author was a severe universal reactor who has recovered, this book contains mountains of clues to wellness. As a result, many have written that they healed themselves of resistant illnesses of all types by reading this book. This is in spite of the fact that no consulted physicians were able to diagnose or effectively treat them. If you are not sure what causes your symptoms, this is a great start.

Many veteran sufferers have written that they had read many books on aspects of allergy, chronic Candidiasis and chemical sensitivity and thought that they knew it all. Yet (they wrote that) what they learned in *The E.I. Syndrome, Revised* enabled them to reach that last pinnacle of wellness.

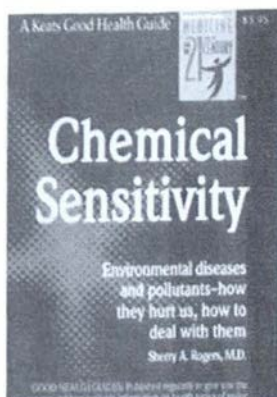


including chronic pain.

Tired or Toxic? is a 400 page book, and the first book that describes the mechanism, diagnosis and treatment of chemical sensitivity, complete with scientific references. It is written for the layman and physician alike and explains the many vitamin, mineral, essential fatty acid and amino acid analyses that help people detoxify everyday chemicals more efficiently and hence get rid of baffling symptoms,

It is the first book written for laymen and physicians to describe xenobiotic detoxification, the process that allows all healing to occur. You have heard of the cardiovascular system, you have heard of the respiratory system, the gastrointestinal system, and the immune system. But most have never heard of the chemical detoxification system, that is the main determinant of whether we have chemical sensitivity, cancer, and in fact every disease.

This program shows how to diagnose and treat many resistant everyday symptoms and use molecular medicine techniques. It also gives the biochemical mechanisms in easily understood form, of how Candida creates such a diversity of symptoms and how the macrobiotic diet heals "incurable" end stage metastatic cancers. It is a great book for the physician you are trying to win over, and shows you how chemical sensitivity masquerades as common symptoms. It then explores the many causes and cures of chemical sensitivity, chronic Candidiasis, brain fog or toxic encephalopathy, and other "impossible to heal" medical labels.



Chemical Sensitivity. This 48-page booklet is the most concise referenced booklet on chemical sensitivity. It is for the person wanting to learn about it, but who is leery of tackling a big book. It is ideal for teaching your physician or convincing your insurance company, as it is fully referenced. And it is a good reference for the veteran who wants a quick concise review.

Most people have difficulty envisioning chemical sensitivity as a potential cause of everyday maladies. But the fact is that a lack of knowledge of the mechanism of chemical sensitivity can be the solo reason that holds many back from ever healing completely. Some will never get truly well, simply because they do not comprehend the tremendous role chemical sensitivity plays. For failure to address the role that chemical sensitivity plays in every disease has been pivotal in failure to get well. The principles of environmental controls are of especially vital importance for cancer victims.

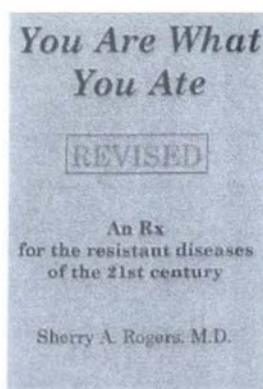
If you are not completely well, you need to read this booklet. If you have been sentenced to a life-time of drugs, whether it be for high blood pressure, high cholesterol, angina, arrhythmia, asthma, eczema, sinusitis, colitis, learning disabilities, chronic pain or cancer, you need this booklet. It matters not what your label is. What matters is whether chemical sensitivity is a factor that no one has explored that is keeping you from getting well. Most probably it is, and this is an inexpensive way to start you on the path toward drug-free wellness. Then give one to your physician and friends who need to learn about pervasive everyday chemicals and their power to cause disease.



Pain Free In 6 Weeks. All pain has a cause, and once you know the cause, you have the cure. We don't all just look different; we have different chemistries and different underlying causes for our pain.

Old injuries, old age, auto-immune disease, chronic degeneration and even cancer are not the *reasons* for pain. They are mere *labels and excuses* for not finding the true cause and getting rid of it. In fact, the very medications prescribed for pain actually cause deterioration of bone and cartilage, guaranteeing that hip and knee replacement will be needed in the future. And total cure from pain need not be difficult, for the solution may be as simple as eliminating an unidentified food antigen, correcting a nutrient deficiency, healing the gut, or killing an unidentified infection.

For others it has required getting rid of a lifetime's accumulation of everyday toxic chemicals. U.S. EPA studies of chemicals stored in the fat of humans showed that 100% of people harbor environmental chemicals that trigger mysterious back pain, hip pain, arthritis, osteoporosis, painful burning skin, migraines, prostatitis, fibromyalgia, sciatica, degenerating back discs, cystitis, neuropathies, tic doloreau, and even end-stage cancer. When folks get symptoms, they are told that they are a normal consequence of aging, and that there is no known cause nor cure. This is totally wrong, as the over 500 scientific references prove. The exciting part is that the majority of folks have total power over their pain. Are you ready to reverse years of pain and become truly **pain free**?

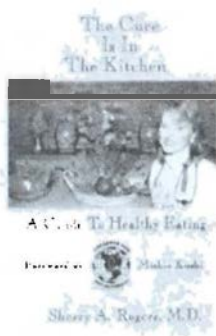


You Are What You Ate. This book is indispensable as the primer and introduction to the macrobiotic diet. The macrobiotic diet is the specialized diet with which many have healed the impossible, including end-stage metastatic cancers. This is after medicine had given up on them and they had been given only months or weeks to live. Yes, they have rallied after surgery, chemotherapy and radiation had failed. Life was seemingly, hopelessly over.

Understandably, this diet has also enabled many chemically sensitive universal reactors, and highly allergic and even “undiagnosable people” to heal. It has also enabled those to heal who have “wastebasket” diagnostic labels such as chronic fatigue, fibromyalgia, MS (multiple sclerosis), rheumatoid arthritis, depression, chronic infections, colitis, asthma, migraines, lupus, chronic Candidiasis, and much more.

Although there are many books on macrobiotics, this is one that takes the special needs of the allergic person and those with multiple food and chemical sensitivities as well as chronic Candidiasis into account. It provides details and case histories that the person new to macrobiotics needs before he embarks on the strict healing phase, as meticulously described in *The Cure is in the Kitchen*.

Even people who have done the macrobiotic diet for a while will find reasons why they have failed and tips to improve their success. When a diet such as this has allowed many to heal their cancers, any other condition “should be a piece of cake”.



The Cure is in the Kitchen is the next book you should read after *You Are What You Ate* to fully understand how to successfully implement the healing macrobiotic diet. It is the first book to ever spell out in detail what all those people ate day to day who cleared their incurable diseases like MS, rheumatoid arthritis, fibromyalgia, lupus, chronic fatigue, colitis, asthma, migraines, depression, hypertension,

heart disease, angina, undiagnosable symptoms, and relentless chemical, food, Candida, and electromagnetic sensitivities, as well as terminal cancers.

Dr. Rogers flew to Boston each month to work side by side with Mr. Michio Kushi, as he counseled people at the end of their medical ropes. As their remarkable case histories will show you, nothing is hopeless. Many of these people had failed to improve with surgery, chemotherapy and radiation. Instead their metastases continued to spread. It was only when they were sent home to die within a few weeks that they turned to the diet.

Medical studies confirm that this diet has more than tripled the survival from cancers. And the beauty of this diet is that you use God-given whole foods to coax the body into the healing mode. It does not rely on prescription drugs, but allows the individual to heal himself at home.

If you cannot afford a \$500 consultation, and you choose not to accept your death sentence or medication sentence, why not learn first hand what these people did and how you, too, may improve your health and heal the impossible.

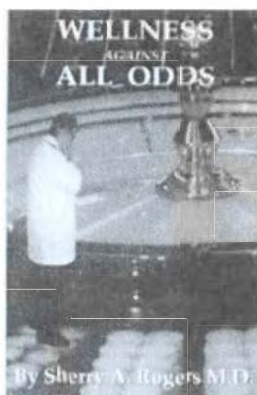


Macro Mellow is a book designed for 4 types of people: (1) For the person who doesn't know a thing about macrobiotics, but just plain wants to cook and eat better to feel better, in spite of the 21st century. (2) It solves the high cholesterol/triglycerides problem without drugs, and is the preferred diet for heart disease patients. In fact, it is the only proven diet to dissolve cholesterol deposits from arterial walls. (3) It is the perfect transition diet for those not

ready for macro, but needing to get out of the chronic illness rut. (4) It spells out how to feed the rest of the family members who hate macro, while another family member must eat it in order to clear "incurable" symptoms.

It shows how to convert the "grains, greens, and beans", strict macro food, into delicious "American-looking" food that the kids will eat. This saves the cook from making double meals while one person heals. The delicious low-fat whole food meals designed by Shirley Gallinger, a veteran nurse who has worked with Dr. Rogers for over two decades, uses macro ingredients without the rest of the family even knowing. It is the first book to dovetail creative meal planning, menus, recipes and even gardening so the cook isn't driven crazy.

Most likely your kitchen contains a plethora of cookbooks. But you owe it to yourself and your family to learn how to incorporate healing whole foods, low in fat and high in phyto-nutrients into their diets. Who you have planning and cooking your meals has been proven to be as important if not more important, than who you have chosen for your doctor. Medical research has proven time after time the power of whole food diets to heal where high tech medicines and surgery have failed.

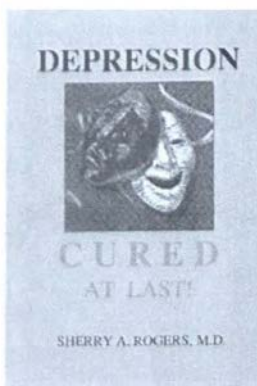


Wellness Against All Odds is the 6th and most revolutionary book by Sherry A. Rogers, M.D. It contains the ultimate healing plan that people have successfully used to beat cancer when they were given 2 weeks, some even 2 days to live by esteemed medical centers. These people had exhausted all that medicine has to offer, including surgery, chemotherapy, radiation and bone marrow transplants. Some had even been macrobiotic failures. And one of the most unbelievable things is that the plan costs practically nothing to implement and most of it can be done at home with non-prescription items.

Of course, in keeping with the other works and going far beyond, this contains the mechanisms of how these principles heal and is complete with the scientific references for physicians. In fact, this program has been proven to more than quadruple cancer survival in the most hopeless forms of cancer (Gonzales, *Nutrition & Cancer*, 33(2): 117-124, 1999).

Did you know, for example, that Harvard physicians have shown how vitamins actually cure some cancers, and over 50 papers in the best medical journals prove it? Likewise, did you know that there are non-prescription enzymes that dissolve cancer, arteriosclerotic plaque, and auto-antibodies like lupus and rheumatoid? Did you know that there is a simple inexpensive, but highly effective way to detoxify the body at home to stop the toxic side effects of chemotherapy within minutes? Did you know that this procedure can also reduce chemical sensitivity reactions (from accidental chemical exposures) from 4 days to 20 minutes? Did you know that there are many hidden causes for "undiagnosable" symptoms that are never looked for, because it is easier and quicker to prescribe a pill than find (and fix) the causes?

The fact is that when you get the body healthy enough, it can heal anything. You do not have to die from labelitis. It no longer matters what your label is, from chronic Candida, fatigue, MS, or chronic pain to chemical sensitivity, an undiagnosable condition, or the worst cancer with only days to survive. If you have been told there is nothing more that can be done for you, you have the option of kicking death in the teeth and healing the impossible. Are you game? And if you can give only one book to a friend with cancer, this is it.



Depression Cured at Last! Just when you think all has been accomplished, along comes one of the most important books of all. Unique in many ways, (1) it is written for the lay person and the physician, and is appropriate as a medical school textbook. In fact, it should be required reading for all physicians regardless of specialty.

(2) It shows that it borders on malpractice to treat depression as a Prozac deficiency, to drug cardiology patients, or any other medical/psychiatric problems without first ruling out proven causes.

With over 700 pages and 1,000 complete references, it covers the **environmental**, **nutritional** and **metabolic** causes of all disease. It covers leaky gut syndrome, intestinal dysbiosis, hormone deficiencies, hidden sensitivities to foods, molds, and chemicals, dysfunctional detoxication, heavy metal and pesticide poisonings, xenobiotic accumulations, and much, much more.

It is the best blue-print for figuring out what is wrong and how to fix it once and for all. If no one knows what is wrong with you, you need this book. If they know, but say there is no cure, you need this book. If they say you need medications to control your symptoms indefinitely, you need this book. For it is the protocol for the environmental medicine work-up for all disease: how to systematically find the causes.

It is inconceivable that there is anyone who would not benefit from this book, as it surely leaves drug-oriented medicine in the dust of the 20th century. And it does so by using the only disease that by definition sports a lack of hope. We chose this disease, depression, as a prototype, to be sure to drive home the message that just when you least expect it, there is always **hope**. Every symptom has a cause and a cure. Come learn how to find the causes of yours.

The
Scientific Basis
for
Selected
Environmental
Medicine
Techniques

by

Sherry A. Rogers, M.D.

Scientific Basis for Selected Environmental Medicine Techniques contains the scientific evidence and references for the techniques of environmental medicine. It is designed with the patient in mind who is being denied medical payments by insurance companies that refuse to acknowledge environmental medicine.

With this guide a patient may choose to represent himself in small claims court and quote from the book showing, for example, that the *Journal of the American Medical Association* states that "titration provides a useful and effective measure of patient sensitivity". Or he may need to prove to his HMO that a U.S. Government agency states that "an exposure history should be taken for every patient". Failure to do so can lead to an inappropriate diagnosis and treatment.

It has sections showing medical references of how finding hidden vitamin deficiencies have, for example, enabled people to heal carpal tunnel syndrome without surgery, or heal life threatening steroid-resistant vasculitis, or stop seizures, or migraines, or learning disabilities.

This book is designed for patients who choose to find the causes of their illnesses, rather than merely mask their symptoms with drugs for the rest of their lives. It is also for those who have been unfairly denied insurance coverage, or appropriate diagnosis by an HMO that is more concerned about profit than finding the cause of their patients' symptoms. And it is the ideal book with which to educate your PTA, attorney, insurance company, or physicians who still doubt your sanity.

In this era, HMO's tell people what diseases they can have, how long they can have them, and what treatments they can have. And all diseases seem to be deficiencies of drugs, for that is how they are all treated. It is as though arthritis were an Advil deficiency. This book arms you with the ammunition to defend your right to find the causes and get rid of symptoms and drugs.



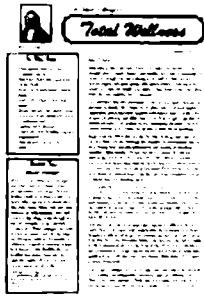
No More Heartburn. The chance of healing any condition in the body is slim to none until the gut is healthy first. Heartburn, indigestion, irritable bowel, spastic colon, colitis, gall bladder disease, gas and bloating are far from benign, for they are all signs of an ailing gastro-intestinal tract. And disease and death began in the gut.

Learn how the many prescription and over-the-counter drugs guarantee that you will not only have worse gut symptoms eventually, but that you can pile on new symptoms, seemingly unrelated to the gut, within the next few years like arthritis, heart problems or cancer.

Come learn how to find the many hidden causes of symptoms like food allergies, Candida overgrowth, Helicobacter, leaky gut, nutrient deficiencies, toxic environment and thoughts, and more. Then learn how to use non-prescription remedies to heal, not merely mask every symptom from mouth to rectum.

Since the gut houses over half the immune system and over half the detoxification system, a silently ailing gut holds back healing any condition indefinitely. This book is also full of new non-prescription Candida and other yeast fighters and protocols, since this is a common unsuspected cause of many diseases.

Learn how heartburn masked with drugs is a fast road to a heart attack or cancer, chronic fatigue, chronic pain or fibromyalgia. Explicit clear directions are given for every gut symptom, their causes and cures. For an unhealthy gut is a primary reason for many folks to be stuck at a standstill, unable to heal any further. If your healing is stalled, chances are you need to start healing the gut first. You need to heal from the inside out, for **the road to health is paved with good intestines.** (Over 350 references)



Total Wellness Newsletter

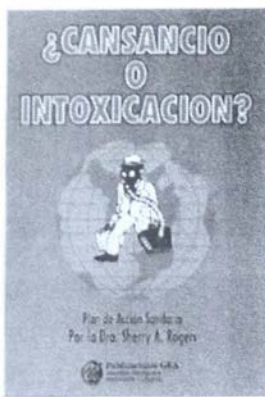
For over a decade and a half, this referenced monthly newsletter has kept folks and physicians up to date on new findings. Since Dr. Rogers is constantly researching, lecturing around the globe, maintaining a private practice, doing television and radio shows, writing for health magazines and physicians, and has published over 18 scientific papers and over 13 books in 15 years, she is peddling as fast as she can.

There is literally an avalanche of new information, but we don't want you to have to wait for a new book on the subject to learn about it. We want that practical and useful instruction in your hands this month.

Furthermore, the field of environmental medicine, because it is so all encompassing, can be overwhelming at times. So in addition to bringing you the new, we also focus on the overall perspective and the practical solutions you can do today.

In this era, because we cannot get the information out to you fast enough, we use the newsletter as our communication link. By sending you to the medical school of the future each month, *Total Wellness* will teach you useful facts years before they will be presented elsewhere, and it is practical and action-oriented, giving you explicit directions and sources. For pennies a day you really cannot afford to be without this life-altering unique information.

We continually receive kind letters that read, "I had to laugh last week when all the newspapers and television shows were abuzz with the hot new medical discovery. If they had been readers of your newsletter, they could have learned about it 10 years ago, as I did!"



Cansancio o Intoxicacion?

(*Tired or Toxic?* in Spanish) El lego informado reconoce que a medida que el mundo se vuelve más tecnológico, el hombre pierde proporcionalmente más control sobre su vida. Este libro le permitirá recuperar el control de su salud, ofreciéndole mayor capacidad para formar equipo con su medico para diagnosticar y tratar su condición.

Esta información es vitalmente importante ahora ya que a todos toca con cualquier síntoma tal como la sensibilidad química, alto colesterol, fatiga crónica, complejo relacionado a Cándida, depresion, Alzheimer, hipertensión, diabetes, enfermedad cardíaca, osteoporosis y más.

Dra. Rogers se encuentra en la avanzada de la educación pública sobre los efectos del medio ambiente en el individuo.

Otros libros escritos por Dra. Rogers que tienen que ver con prevenir enfermedades y restablecer la salud son **Eres lo que Has Comido**, **El Síndrome de E.A.**, y **La Cura Se Encuentra En La Cocina: La Fase Curativa Estricta de la Dieta Macrobiotica**.



La Cura Se Encuentra En La Cocina

(The Cure Is In The Kitchen in Spanish)

Este libro explora la relación entre dieta, medio ambiente, salud, y enfermedad y explica como la dieta macrobiótica, basada en cereales integrales, porotos y sus productos y otros alimentos naturales integrales puede prevenir enfermedades y restablecer la salud.

Nos explica cómo una dieta muy artificial contribuye a una variedad de problemas de salud y cómo ciertos aspectos de la vida moderna también nos pueden debilitar.

Un programa macrobiótico consiste de dos fases; pasar gradualmente a una dieta macrobótica o ponerse en una fase curativa estricta de carácter temporario. El objetivo de la fase curativa de esta dieta es aclarar una condición en particular. Es necesariamente, muy estricta e individualizada, y por eso razón, la persona debe consultar un doctor entrenado en la macrobiótica.

Otros libros escritos por Dra. Rogers que tienen que ver con prevenir enfermedades y restablecer la salud son **Cansancio o Intoxicación?**, **Eres lo que Has Comido**, y **El Síndrome de E.A.**

Mold Plates

Since mold is unavoidably everywhere, and sensitivity to it can mimic nearly any symptom, you need to know what is in your environment. For as devastating and perplexing as a mold symptom can be, it is completely curable, but only if you have identified it as a possible cause. You need to know if you have too much mold in your environment and what types are present. By exposing special petri dishes (or mold plates) in your bedroom, family room, and office, you have effectively assessed your 24 hour mold environment.

Each plate comes with directions for exposure and a return mailer. In 6-9 weeks after the slow-growing fungi have appeared for identification, the report will be mailed to you, detailing all of the specific molds and how many molds are present. We purposely take as long as we need, since we wait for the last molds to grow out before completing the report. We do not want to neglect the “slow growing” molds like other labs do, often sending reports back within days of receiving the plates. You will need to order one plate for each room you want to assess at home or work.

Mold allergy can mimic nearly any symptom. If you do not know how moldy your environment is, you may erroneously be attributing symptoms to chemical or food sensitivities or some “incurable” or mysterious problem with no known cause. It is always best to meet the enemy head on in order to identify the cause of the problem and solve it, once and for all.

Personal Phone Consultations with Dr. Rogers

Many people are stuck. They have an undiagnosable condition. Or they have a label but have been unable to get well. Or they have a “dead-end” label that means nothing more can be done. And many are not able to find a physician who is trained in what our books explore, and need for example, help in interpreting their laboratory results.

These people could benefit from a personal consultation with Dr. Sherry Rogers to explore what diagnostic and treatment options may exist that they or their physicians are not aware of. For this reason we offer prepaid, scheduled phone consultations with the doctor. These can be scheduled through the office by calling (315) 488-2856.

If you wish to send copies of your medical reports and/or also have your doctor or spouse on the line, this can be helpful as well. Reports must be received at least 3 weeks prior to the consult and not be on fax paper. They should be copies and not originals as they are not returnable. Do not send records without first having secured a scheduled appointment time, for records without an appointment are discarded.

Because you have not come to the office and been examined, you are not considered a patient. In spite of that, you can learn what tests your physician could order and what plans you could follow. If he needs help in interpreting the tests, a scheduled follow-up consultation can allow you to explore treatment options with specific nutrient and other treatment suggestions. The point is, you do not have to be alone without guidance in your quest for wellness. And you owe it to yourself to explore the options that you might otherwise never even have heard of.

Price List

Detoxify or Die	\$22.95
Depression Cured At Last!	\$24.95
The E.I. Syndrome Revised	\$17.95
Tired or Toxic?	\$18.95
Chemical Sensitivity (booklet)	\$ 3.95
You Are What You Ate	\$12.95
The Cure Is In The Kitchen	\$14.95
Macro Mellow	\$12.95
Wellness Against All Odds	\$17.95
The Scientific Basis for Environmental Medicine Techniques	\$17.95
No More Heartburn	\$15.00
Pain-Free In 6 Weeks	\$19.95

Spanish Translations

Cansancio o Intoxicacion?	\$30.00
La Cura Se Encuentra En La Cocina	\$30.00

Newsletter

Total Wellness Newsletter

Monthly referenced newsletter on current wellness and healing information/1 year (12 issues)	\$39.95
Back issues/1 year (12 issues)	\$29.95
Back issues/each	\$ 4.00

Services

Mold Plates (one room)	\$40.00
------------------------	---------

Phone Consultations

Telephone consultations available with Dr. Rogers.
Contact Dr. Rogers' office (315) 488-2856 for scheduling information.

Chapter VII

References

Chapter I:

Rier SE, Martin D.C., Becker JL, Endometriosis in rhesus monkeys (*Maccaca mulatta*) following chronic exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin, *Fund Appl Toxicol*, 21: 433-4 41, 1993

Raloff J, Girls may face risks from phthalates, *Sci News* 158,:165, Sept 9, 2000

Jones DP, Chemical levels detected in people alarm scientists, *Sarasota Herald*, A1, Sunday Aug. 21, 2000

Global Allegiance Against Fluoridation, Park West Station, P.O. Box 28030, New York NY 10025-1516 (an all-volunteer, nonprofit organization).

New York State Coalition Opposed to Fluoridation, P.O. Box 263, Old Bath Page, NY 11804-0263 (this organization believes in individual choice and opposes laws to fluoridate city water).

Rea WJ, *Chemical Sensitivity, Volumes I-IV*, Lewis Publishers, a division of CRC Press, Boca Raton FL 1992-1998

Ashford, NA, Miller CA, *Chemical Exposures, Low Levels High Stakes*, Van Nostrand Reinhold, NY, 1991

Beebe G, *Toxic Carpet III*, Box 399086, Cincinnati 045239, 1991

Roy D, Palangat M, Yan ZJ, et al, Biochemical and molecular changes at the cellular level in response to exposure to environmental estrogen-like chemicals, *J Toxicol Environ Health*, 50:1-29, 1997

Colborn T, vom Saal FS, Soto AM, Developmental effect of endocrine-disrupting chemicals in wildlife and humans, *Environ Health Persp*, 101;5:378-84, Oct 1993

Jobling S, Reynolds T, Sumpter JP, et al, A variety of environmentally persistent chemicals including some phthalate plasticizers are weakly estrogenic, *Environ Health Persp*, 103;6: 582-587, Jun 1995

Wallace L, Pellizarri E, Hartwell T, et al., Concentrations of 220 volatile organic compounds in air and drinking water of 350 residents of New Jersey compared with concentrations in their exhaled breath, *J Occup Med* 28:603-608, 1986

Feldman RG, Ricks NL, Baker EL, Neuropsychological effects of industrial toxins: a review, *Amer J Industr Med* 1:211-227, 1980

Broder I, Corey P, Cole P, et al, Comparison of health of occupants and characteristics of houses among control homes and homes insulated with urea formaldehyde foam. II. Health and home variables following remedial work. *Environ Res* 45: 179, 1988

Dally KA, Hahrahan LP, Woodbury MA, Formaldehyde exposure in non-occupational environments, *Arch Environ Health* 36: 277, 1981

Konopinski, VJ Seasonal formaldehyde concentrations in office buildings, *Am Indust Hygiene Assoc* 146:65, 1985

Rogers SA, Chemical Sensitivity: Breaking the paralyzing paradigm, part I in *Internal Medicine World Report*, 7: 3, 1,15-17, Feb. 1, 1992. Part II *ibid* 7:6,2, 21-31, March 1, 1992. Part III *ibid* 7:8, 13-16, 32-33, 40-41, April 15, 1992

Samet JM, Marbury MC, Spengler JD, Respiratory effects of indoor air pollution, *J Allergy Clin Immunol* 79: 685, 1987

Thrasher J, Broughton A, *The Poisoning of Our Homes and Workplaces*, Antigen Assay Labs, 1-800-522-2611, 1984

Sterling DA, Volatile organic compounds in indoor air: An overview of sources, concentrations and health effects. In: *Indoor Air and Human Health*, Gammage RB, Kaye SV, Jacobs VA, eds., CRC: Lewis Publishers Inc., Boca Raton FL 1985

RandolphTG, Human ecology and susceptibility to the chemical environment, parts I and II, *Ann Allergy* 19:518-540, 1961

Ryan PB, Spengler JD, Letz R, The effects of kerosene heaters on indoor pollutant concentrations: A monitoring and modeling study. *Atmosphere Environment* 17:1339-145, 1983

Ritchie IM, Oatman LA, Residential air pollution from kerosene heaters, *J Air Pollut Control Assoc* 33:879-881, 1983

Girman JR, Hodgson AT, NewtonAS, Winkes AW, Emissions of volatile organic compounds from adhesives with indoor applications, *Environ Internat* 12:317-321, 1986

Bridbord KP, Brubaker P, Gay B, French J, Exposure to halogenated hydrocarbons in the indoor environment, *Environ Health Persp* 2:117-128, 1975

Wallace L.A., The total exposure assessment methodology (TEAM) study: Summary and analysis, Volume I, Washington D.C., U.S. EPA, EPA/600/6-87/002

Wanner HU, Kuhn M, Indoor air pollution by building materials, *Environ Internat* 12:311-315, 1986

Anderson I, Lundqvist GR, Molhave L, Indoor air pollution due to chipboard used as a construction material, *Atmosph Environ* 911: 21-1127, 1975

Dowty, BD, Carlisle D, Laseter J, Halogenated hydrocarbons in New Orleans drinking water and blood plasma, *Sci* 187:5-77, 1975

Feliciano DV, *Groundwater contamination from petroleum underground storage tanks and associated liability issues*, Washington D.C., U.S. Library of Congress, Congressional Research Service, Environmental and Natural Resources Policy revision, 1985

Zhao LB, Lian GH, et al, Effect of a high fluoride water supply on children's intelligence, *Fluoride* 29:190-2, 1996

Brown HS, Bishop DR, Rowan CA, The role of skin absorption as a route of exposure for volatile organic compounds (VOCs) in drinking water, *Amer J Pub Health*, 74:479-484, 1984

Hattersley JG, The negative health effects of chlorine, *J Orthomolecular Med*, 15;2:89-95, 2000

Morris RD, Audet AM, Mosteller F, et al, Chlorination, chlorination by-products, and cancer: a meta-analysis, *Amer J Pub Health*, 82:955-963, 1992

Hoyer AP, et al, Organochlorine exposure and risk of breast cancer, *Lancet* 352:1816-20, 1998

Chang CS, et al, Topographic recognition of cyclic hydrocarbons and related compounds by receptors for androgens, estrogens, and glucocorticoids, *J Steroid Biochem* 27:123-131, 1987

Dunstan RH, Donohoe M, McGregor NR, et al, A preliminary investigation of chlorinated hydrocarbons and chronic fatigue syndrome, *Med J Australia*, 163; 18:294-7, 1995

Soto AM, Justica H, Sonnenschein C, et al, p-Nonyl-phenol: An estrogenic xenobiotic released from "modified" polystyrene, *Environ Health Persp* 92:167-73, 1991

Topparie, *J Environ Health Persp*, 104; 4: 741, 1996

Colburn T, Dumanowski D, Myers JP, *Our Stolen Future*, Penguin Books, New York 1996

Steingraber S, *Living Downstream*, Addison-Wesley Publishing, New York, 1997

Rogers SA, *The E. I. Syndrome*, Prestige Publishing, Syracuse NY , 1998, www.prestigepublishing.com

Rogers SA , *The Scientific Basis for Selected Environmental Medicine Techniques*, SK Publishing, Box 40101, Sarasota FL 34242, 1994 (1-800-846-6687 or prestigepublishing.com)

Muckle G, Ayotte P, Jacobson JL, et al, Prenatal exposure of the Northern Quebec Inuit infants to environmental contaminants, *Environ Health Persp* 109; 12: 12 91-99, Dec 2001

Jensen AA, Levels and trends of environmental chemicals in human milk. In: *Chemical Contaminants in Human Milk* (Jensen AA, Slorach AS, eds). Boca Raton FL: CRC Press; 45-198, 1991

Dewailly E, Ayotte P, Norstrom RJ, et al, Inuit exposure to organochlorides through the aquatic food chain in Arctic Quebec. *Environ Health Persp* 101: 6 18-20, 1993

Dewailly E, Nantel A, Weber J, Meyer F, High levels of PCBs in breast milk of Inuit women from Arctic Quebec, *Bull Environ Contam Toxicol* 43: 641-46, 1989

Dewailly E, Ayotte P, Weber JP, et al, Exposure of the Inuit population of Nunavik (Arctic Quebec) to lead and Mercury. *Arch Environ Health* 53: 3 50-57, 2001

Bjerragaard P, Dewailly E, Mulvad G, et al, Exposure of Inuit Greenland to organochlorines through the marine diet. *J Toxicol Environ Health*, 62 (part A): 101-13, 2001

Bjerragaard P, Hansen JC, Organochlorines and heavy metals in pregnant women from the Disco Bay area in Greenland, *Sci Total Environ* 245: 195-202, 2000

Dewailly E, Ayotte P, Nantel A, et al, Polychlorinated biphenyl (PCB) and dichlorodiphenyl dichloroethylene (DDE) concentrations in the breast milk of women in Quebec. *Am J Public Health* 86: 12 41-46, 1996

- Jacobson JL, Rein GG, Dowler JK, The transfer of polychlorinated biphenyls (PCBs) and polybrominated biphenyls (PBBs) across the human placenta and into maternal milk. *Am J Public Health* 74; 4: 378-79, 1984
- (USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Chlorinated Dibenzo-p-Dioxins*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Dec 1998
- (USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Styrene*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept 1992
- Jacoby WB, *Enzymatic Basis of Detoxication, Volume II*, Academic Press, New York, 1980
- Jacoby WB, Bend JR, Caldwell J, *Metabolic Basis of Detoxication, Metabolism of Functional Groups*, Academic Press, New York, 1982
- Klaassen CD, Amdur MO, Doull J, *Casarett and Doull's Toxicology. The Basic Science of Poisons*, 3rd ed., Macmillan Publ., New York, 1986
- Sullivan JD, Kreiger GR, *Hazardous Materials Toxicology. Clinical Principles of Environmental Health*, Williams & Wilkins, Baltimore, 1992
- U.S. Environmental Protection Agency, *Broad Scan Analysis of the FY82 National Human Adipose Tissue Survey Specimens*, EPA-560/5-86-035, Dec 1986
- U.S. Environmental Protection Agency, *Characterization of HRGC/MS Unidentified Peaks From the Analysis of Human Adipose Tissue*, EPA-560/5-87-002A, May 1987
- U.S. Environmental Protection Agency, *Chemicals Identified in Human Biological Media, a database*. EPA-560/5-84-003, 1984
- Page BD, Lacroix GM, The occurrence of phthalate ester and di-2-ethylhexyl adipate plasticizers in Canadian packaging and food samples in 1985-1989: a survey. *Food Addit Contam* 12: 129-51, 1995
- Sharman M, Read WA, Gilbert J, et al, Levels of di-(2-ethyl-hexyl) phthalate and total of phthalate esters in milk, cream, butter and cheese, *Food Addit Contam*, 811: 375-85, 1994

Colon I, Caro D, Rosario O, et al, Identification of phthalate esters in the serum of young Puerto Rican girls with premature breast development, *Environ Health Persp*, 108; 9: 895-900, Sept 2000

Harris CA, Henttu P, Sumpter JP, et al, The estrogenic activity of phthalate esters in vitro, *Environ Health Persp* 105; 8: 802-11, Aug 1997

White R, Jobling S, Parker MG, et al, Environmentally persistent alkylphenolic compounds are estrogenic, *Endocrinology* 135: 175-82, 1994

Colborn T, Dumanoski D, Myers JP, *Our Stolen Future*, Dutton, New York, 1996

Colborn T, vom Saal F, Soto A, Developmental effects of endocrine-disrupting chemicals in wildlife and humans, *Environ Health Persp* 101; 5: 378-84, 1993

Crisp TM, Clegg ED, Patel YM, et al, Environmental endocrine disruption: An effects assessment and analysis, *Environ Health Persp*, 106 (suppl 1): 11-56, Feb 1998

Roy D, Palangat, Yan ZJ, et al, Biochemical and molecular changes at the cellular level in response to exposure to environmental estrogen-like chemicals, *J Toxicol Environ Health*, 50: 1-29, 1997

Bertazzi P, Pesatori A, Zochetti C, et al, Cancer incidence in a population accidentally exposed to 2,3,7,8-Tetrachlorodibenzo-para-dioxin, *Epidemiol* 4;5: 398-406, 1993

Davis D, Bradlow H, Wolff M, Anton-Culver H, et al, Medical hypothesis: Xenoestrogens as preventable causes of breast cancer, *Environ Health Persp* 101; 5: 372-77, 1993

Dewailly E, Dodin S, Brisson J, et al, High organochlorine body burden in women with estrogen receptor-positive breast cancer, *J Nat Cancer Inst*, 86; 3: 232-34, 1994

Gray TJB, Gangolli SD, Aspects of the testicular toxicity of phthalate esters, *Environ Health Persp*, 65: 229-35, 1986

Jobling S, Reynolds T, White R, Parker MG, Sumpter JP, A variety of environmentally persistent chemicals, including some phthalate plasticizers, are weakly estrogenic, *Environ Health Persp*, 103; 6: 582-87, June 1995

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Di(2-Ethylhexyl) Phthalate*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept 2000

- Doull J, Cattley R, van Gemert M, et al, A cancer risk assessment of di(2-ethylhexyl)phthalate: Application of the new U.S. EPA risk assessment guidelines, *Regulatory Toxicol Pharmacol* 29: 327-57, 1999
- Huber WW, Grasl-Kraupp B, Schulte-Hermann R, Hepatocarcinogenic potential of di(2-ethylhexyl)phthalate in rodents and its implications on human risk, *Crit Rev Toxicol* 26; 4: 365-481, 1996
- Cohen H, Charrier C, Sarfaty J, Extraction and identification of a plasticizer, di-(2-ethylhexyl)phthalate, from a plastic bag containing contaminated corn, *Arch Environ Contam Toxicol* 20: 437-40, 1991
- Castle L, Mayo A, Gilbert J, Migration of plasticizers from printing inks into foods, *Food Addit Contam* 6: 437-43, 1989
- Brotons JA, Oleo-Serrano MF, Olea N, et al, Xenoestrogens released from lacquer coatings in food cans, *Environ Health Persp* 103: 608-12, 1995
- Gilbert J, Shepherd NK, Wallwork MA, et al, Identification by gas chromatography-mass spectrometry of vinylchloride oligomers and other low molecular weight components in poly (vinyl chloride) resins for food package applications. *J Chromatogr*, 237: 249-61, 1982
- Krishnan AV, Stathis P, Feldman D, et al., Bisphenol-A: an estrogenic substance is released from polycarbonate flask during autoclaving, *Endocrinol* 132: 2279-86, 1993
- Perera SP, Molecular epidemiology: Insights into cancer susceptibility, risk assessment, and prevention, *J Nat Cancer Inst*, 88; 8: 496-509, Apr 17, 1996
- Michniewicz JJ, Bradlow HL, Altered estrogen metabolism and excretion in humans following consumption of indole-3-carbinol, *Nutr Cancer* 16: 59-66, 1991
- Jones DP, Chemical levels detected in people alarm scientists. Phthalates found in everyday household products could affect hormonal fluctuations, *L A Times*, A 14, Aug. 21, 2000
- CDC, *National Report on Human Exposure to Environmental Chemicals*, Centers for Disease Control and Prevention, Atlanta GA (1-866-670-6052), Mar. 2001
- Anderson HA, Lilis R, Valciukas JA, et al, Unanticipated prevalence of symptoms among dairy farmers in Michigan and Wisconsin, *Environ Health Perspec* 23: 217-226, 1978

Bekeski JG, Roboz JP, Mason P, et al, Immuno toxicology: environmental contamination by polybrominated biphenyls and immune dysfunction among residents of the state of Michigan. *Cancer Detect Prev Suppl* 1:29-37, 1987

Bahn JG, Mills JL, Snyder PJ, et al, Hypothyroidism in workers exposed to polybrominated biphenyls, *New Engl J Med*, 302; 1: 31-33, 1980

Brostoff J, Challacombe SJ, *Food Allergy and Intolerance*, Bailliere Tindall/W.B.Saunders, , Philadelphia, 1987

Persky V, Turyk M, and Great Lakes Consortium, et al, The effects of PCB exposure and fish consumption on endogenous hormones, *Environ Health Perspec* 109: 1275-83, 2001

Anderson H. A., Falk C, Hill RH, The Great Lakes Consortium , et al, Profiles of Great Lakes critical pollutants: a sentinel analysis of human blood and urine, , *Environ Health Perspec*, 109: 79-89, 1998

Hanrahan LP Falk C, Olson J, The Great Lakes Consortium, et al, Serum PCB and DDE levels of frequent Great Lakes sport fish consumers -- the first look, *Environ Res* 80: s 26s-37s, 1999

Crinnion WJ, Environmental Medicine, Part Three: Longer-term effects of chronic low-does mercury exposure, *Altern Med Rev* 5; 3: 209-223, June 2000

U.S. Food and Drug Administration, Mercury and fish: cause for concern?, *FDA Consumer*, revised May 1995

Tollefson L, Cordle F, Methylmercury and fish: a review of residue levels, fish consumption and regulatory action in the United States, *Environ Health Perspec*, 68: 203-08, 1986

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Di(2-Ethylhexyl) Phthalate*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept 2000

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Aluminum*, Agency for Toxic Substances and Disease Registry, Atlanta GA, July 1999

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Mercury*, Agency for Toxic Substances and Disease Registry, Atlanta GA, March 1999

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Arsenic*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept. 2000

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Antimony*, Agency for Toxic Substances and Disease Registry, Atlanta GA, October 1990

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Lead*, Agency for Toxic Substances and Disease Registry, Atlanta GA, February 1991

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Polychlorinated Biphenyls (Update)*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Nov. 2000

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Toluene*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept 2000

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Xylene*, Agency for Toxic Substances and Disease Registry, Atlanta GA, August 1995

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Chlorpyrifos*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept 1997

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Benzene*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Sept 1997

Beebe G, *Toxic Carpet III*, Box 399086, Cincinnati OH 04523, 1991

Anderson JH, Reactions to carpet emissions: A case series, *J Nutr Environ Med* 7:3:177-85, 1997

Gupta KC, Ulsamer AG, Preuss PW, Formaldehyde in indoor air: Sources and toxicity. In: *International Symposium on Indoor Air Pollution, Health and Energy Conservation*, Harvard University Press, Boston, 1981

Zhao LB, Liang GH, Zhang DN, Wu XR, Effect of a high fluoride water supply on children's intelligence, *Fluoride*, 29; 4: 191-92, Nov. 1996

Yiamouyiannis J, Burk D, Fluoridation and cancer, age-dependence of cancer mortality related to artificial fluoridation, *Fluoride*, 10; 3: 102-123, 1977

Hoover RN, Devesa S, Cantor K, et al, Time trends for bone and joint cancers and osteosarcoma, appendix "F" in United States Public Health Service's *Review of Fluoride Benefits and Risks*, Feb 1991

Cohn PD, Brief report on the association of drinking water fluoridation and the incidence of osteosarcoma among young males, *Environmental Health Service New Jersey Department of Health*, Nov. 8, 1992

Yiamouyiannis J, Water fluoridation and tooth decay: Results from the 1986-1987 National Survey of U.S. school children, *Fluoride* 23; 2:55-57, 1990

Foulkes RG, Fluoride brain damage: A secret revealed. *Alive, Canadian Journal of Health & Nutrition*, 191: 67-68, 1998

Turosov V, Rakitsky V, Tomatis L, Dichlorodiphenyltrichloroethane (DDT): Ubiquity, persistence, and risks, *Environ Health Persp*, 110; 2: 125-128, 2002

WHO (World Health Organization). *Safe Use of Pesticides*. WHO Technical Report Series No. 513, Geneva: World Health Organization, 1973

Reynolds P, Von Behren J, Harnly ME, et al, Childhood cancer and agricultural pesticide use: An ecologic study in California, *Environ Health Persp* 110; 3: 319-24, 2002

Meinert R, Schuz J, Michaelis J, et al. Leukemia and non-Hodgkin's lymphoma in childhood and exposure to pesticides: results of a register-based case-control study in Germany, *Am J Epidemiol* 151; 7: 639-46, 2000

Leiss JK, Savitz DA, Home pesticide use and childhood cancer: a case-control study. *Am J Publ Health* 82; 2: 249-52, 1995

Pogoda JM, Preston-Martin S, Household pesticides and risk of pediatric brain tumors, *Environ Health Persp* 105:1214-20, 1997

Davis JR, Brownson RC, Turner A, et al, Family pesticide use and childhood brain cancer. *Arch Environ Contam Toxicol* 24: 87-92, 1993

Zahm SH, Ward MH, Pesticides and childhood cancer, *Environ Health Persp* 106 (supple 3): 893-908, 1998

Daniels JL, Olshan AF, Savitz DA, Pesticides and childhood cancers, *Environ Health Persp*, 105: 1068-77, 1997

Perera FP, Illman SM, Rauth VA, The challenge of preventing environmentally related disease in young children: Community-based research in New York City, *Environ Health Persp*, 110: 197-204, 2002

Jacobson JL, Jacobson SW, Intellectual impairment in children exposed to polychlorinated biphenyls in utero, *New Engl J Med* 335: 783-89, 1996

Faustman EM, Mechanisms underlying children's susceptibility to environmental toxicants, *Environ Health Persp*, 108 (supple 1): 13-21, 2000

Chanda SM, Pope CN, Neurochemical and neurobehavioral effects of repeated gestational exposure to chlorpyrifos in maternal and developing rats, *Pharmacol Biochem Behav* 53: 771-76, 1996

Day NE, Brown CC Multistage models and primary prevention of cancer, *J Nat Cancer Inst*, 64: 977-9 89, 1980

Shirahata S, Kabayama S, Katakura Y, et al, Electrolysed-reduced water scavenges active oxygen species and protects DNA from oxidative damage, *Biochem Biophys Res Comm*, 34: 269-74, 1997

Toftgard R, Gustafsson JA, Biotransformation of organic solvents, *Scand J Work Envir Health* 6: 1-18, 1980

Diaz-Sanchez D, Garcuia MP, Wang M, et al, Nasal challenge with diesel exhaust particles can induce sensitization to a neoallergen in the human mucosa, *J Allergy Clin Immunol* 104: 11 83-88, 1999

Nel AE, Diaz-Sanchez D, Saxon A, et al, Enhancement of allergic inflammation by the interaction between diesel exhaust particles and the immune system, *J Allergy Clin Immunol* 102:5 39-54, 1998

Meister A, Glutathione-ascorbic acid antioxidant system in animals, *J Biol Chem* 269: 9397-9400, 1994

Frei B, England L, Ames BN, Ascorbate is an outstanding antioxidant in human blood plasma, *Proc Natl Acad Sci USA* 86: 6377-81, 1989

May JM, Qu Z, Whitesell RR, Ascorbic acid recycling enhances the antioxidant reserve of human erythrocytes. *Biochem* 34: 12721-12728, 1995

Anti-fluoridation organizations which welcomed inquiries, and provide information about the importance of having free choice vs. community laws about fluoridation of your water.

Global Allegiance Against Fluoridation
Park West Station, P.O. Box 28032
New York NY 10025-1516

New York State Coalition Opposed to Fluoridation
P.O. Box 263
Old The bath Page, NY 11804-0263

Chapter II:

Bruce B, Spiller GA, Klevay LM, Gallagher SK, A diet high in whole and unrefined foods favorably alters lipids, antioxidant defenses, and colon function, *J Amer Coll Nutr*, 19;1:61-67, 2000

Perera FP, Environment and cancer: Who are susceptible?, *Sci*, 278:1068-73, Nov 7, 1997

Wiseman H, Halliwell B, Damage to DNA reactive oxygen and nitrogen species: role in inflammatory disease and progression to cancer, *Biochem J*, 313, 17-29, 1996

Hu FB, Manson JE, Willett WC, Types of dietary fat and risk of coronary heart disease: A critical review, *J Am Coll Nutr*, 20;1:5-19, 2001

Berkson, DL, *Hormone Deception*, (2000) Contemporary Books (a division of NTC/Contemporary), 4255 W. Touhy Ave., Lincolnwood (Chicago), IL 60712-1975, 2000

Ahmud N, Feyes DK, Nieminen AL, et al, Green tea constituent epigallocatechin-3-gallate and induction of apoptosis and cell cycle arrest human carcinoma cells, *J Natl Cancer Inst*; 89:1881-6, 1997

Erba D, Riso P, Colombo A, Testolin G, Supplementation of Jurkat T cells with green tea extract decreases oxidative damage due to iron treatment, *J Nutr*;129:2130-4, 1999

Katiyar SK, Mmukhtar H, Tea antioxidants in cancer chemoprevention, *J Cell Biochem*;27:S59-67, 1997

Lee IP, Kim YH, Kang MH, et al, Chemopreventative effect of green tea (*Camellia sinensis*) against cigarette smoke-induced mutations (SCE) in humans, *J Cell Biochem* 1997; 27:S68-75, 1997

Sato D, Inhibition of urinary bladder tumors induced by N-butyl-N-(4-hydroxybutyl)-nitrosamine in rats by green tea, *Int J Urol*, 6:93-99, 1999

Herzenberg LA, DeRosa SC, Dubs JG, et al, Glutathione deficiency is associated with impaired survival in HIV disease, *Proc Natl Acad Sci USA*; 94:1967-72, 1997

Kalebic T, Kinter A, Poli G, et al, Suppression of human immunodeficiency virus expression in chronically infected monocytic cells by glutathione, glutathione ester, and N-acetylcysteine, *Proc Natl Acad Sci USA*; 88:986-990, 1991

Oddera S, Silvestri M, Sacco, O, et al, N-acetylcysteine enhances in vitro the intracellular killing of *Staphylococcus aureus* by human alveolar macrophages and blood polymorphonuclear leukocytes and partially protects phagocytes from self-killing, *J Lab Clin Med* , 124:293-301, 1994

Kidd P, Glutathione: systemic protectant against oxidative and free radical damage, *Altern Med Rev*, 2:155-76, 1997

Smilkstein MJ, Knapp GL, Kulig KW, Rumack BH, Efficacy of oral N-acetylcysteine in the treatment of acetaminophen overdose. Analysis of the national multicenter study(1976-1985), *N Engl J Med*, 319:1557-62, 1988

Plotnick GD, Corretti MC, Vogel RA, Effect of antioxidant vitamins on the transient impairment of endothelium-dependent brachial artery vasoactivity following a single high-fat meal, *J Am Med Assoc* 278:20:1682-86, Nov. 26, 1997

Gregus A, Stein AF, Varga R, Klaasen CD, Effect of lipoic acid in the biliary excretion of glutathione and metals, *Toxicol Appl Pharmacol*, 114; 1:88-96, 1992

Heuser, C, Vojdani A, Enhancement of natural killer cell activity and B cell function by buffered vitamin C (ultra potent-C) in patients exposed to toxic chemicals: the role of protein kinase-C, *Immunopharmacology Immunotoxicology* 19: 291, 1997 (1-800-950-4686)

Lenton KJ, Therriault H, Wagner JR, et al, Glutathione and ascorbate are negatively correlated with oxidative DNA damage in human lymphocytes, *Carcinogenesis* 20: 4: 607-6 13, 1999

Jobling S, Reynolds T, Sumpter JP, et al, A variety of environmentally persistent chemicals including some phthalate plasticizers, are weakly estrogenic, *Environ Health Persp*, 103; 6: 582-587, June 1995

Kaehny WD, Hegg AP, Alfrey AC,, Gastrointestinal absorption of aluminum from aluminum-containing antacids, *New Engl J Med* 296: 1389, 1977

Crapper DR, Krishnan SS, Quittkat S, Aluminum neuro-fibrillary degeneration and Alzheimer's disease, *Brain* 99:67, 1976

Trapp GA, Miner GD, Zimmerman RL, Heston LL, et al, Aluminum levels in brain in Alzheimer's disease, *Biolog Psychia* 13:709, 1978

Rea, WJ, *Chemical Sensitivity, Vol I-IV* Lewis Publishers, Boca Raton, 1992-1998

Laseter JL, Dowty BJ, Association biorefractories in the drinking water and body burden in people, *Ann N Y Acad Sci*, 298: 5 47-5 56, 1997

Enig MG, *Know Your Fats: The Complete Primer for Understanding the Nutrition of Facts, Oils, and Cholesterol*, Bethesda Press 12501 Prosperity Drive, Suite 340, Silver Spring MD 20904-1689 (phone 301-680-8600), 2000

Lin MY, Yen CL, Inhibition of lipid peroxidation by *Lactobacillus acidophilus* and *Bifidobacterium longum*, *J Agric Food Chem* 47: 3661-3664, 1999

Zelig MA, Diet and estrogen status: the cruciferous connection, *J Medic Food* 1;2:67-82, 1998

Tiroschi O, Sen CK, Packer L, et al, Neuroprotective effects of α -lipoic acid and its positively charged amide analogue, *Free Rad Biol Med* 26(11/12):1418-1426, 1999

Konrad T, Vicini P, Usadel KH, et al, Alpha-lipoic acid treatment decreases serum lactate and pyruvate concentrations and improves glucose effectiveness in lean and obese patients with type 2 diabetes, *Diabetes Care* 22:282-87, 1999

Ziegler D, Reljanovic M, Gries FA, et al, Alpha-lipoic acid in the treatment of diabetic polyneuropathy in Germany: current evidence from clinical trials, *Exp Clin Endocrinol Diabetes*, 107:421-430, 1999

Berkson BM, A conservative triple antioxidant approach to the treatment of hepatitis C. Combination of alpha lipoic acid (thioctic acid), silymarin, and selenium: three case histories, *Med Klin* 94:s84-s89, 1999

Colburn T, Dumanowski D, Myers JP, *Our Stolen Future*, Penguin Books, New York 1996

Steingraber S, *Living Downstream*, Addison-Wesley Publishing, New York, 1997

Cooper RL, Kavlock RJ, Endocrine disruptors and reproductive development: a weight-of-evidence overview, *J Endocrin* 152; 2: 159-166, 1997

Cummins R, Lilliston B, *Genetically engineered food*, Marlowe & Co., New York, 2000 (available 1-800-752-2775)

Ghosh MK Chattopadhyay DJ, Chatterjee IB, Vitamin C prevents oxidative damage, *Free Rad Res* 25: 2: 173-79, 1996

Fine AM, Oligomeric proanthocyanidin complexes: history, structure, and phytopharmaceutical applications, *Altern Med Rev* 5; 2:144-51, 2000

Street JC, Chadwick RW, Ascorbic acid requirements and metabolism in relation to organochlorine pesticides, *Ann NY Acad Sci* 258: 132-43, Sept. 1975

Hagen TM, Wierzebecka T, Jones DP, et al, Bioavailability of dietary glutathione: effect on plasma concentration, *Am J Physiol* 59: 524-29, 1990

Shan ZQ, Aw TY, Jones DP, Glutathione-dependent protection against oxidative injury, *Pharmacol Ther* 47; 1:61-71, 1990

Beutler E, Gelbart T, Plasma glutathione in health and in patients with malignant disease, *J Lab Clin Med* 105; 5:581-84, 1985

Ketterer B, Coles B, Meyer DJ, The role of glutathione in detoxification, *Environ Health Persp* 49: 59-69, 1983

Mueller BA, Newton K, Holly EA, Preston-Martin S, Residential water source and the risk of childhood brain tumors, *Environ Health Persp* 109: 551-56, 2001

Bradlow HL, Davis DL, Tiwari R, et al, Effects of pesticides on the ratio of 16 a/2-hydroxyestrone: A biologic marker of breast cancer risk, *Environ Health Persp* 103 (suppl 7): 147-50, 1995

Eagon PK, Chandar N, Rao KN, et al, Di(2-ethylhexyl)phthalate-induced changes in liver estrogen metabolism and hyperplasia, *Internat J Cancer* 58: 736-43, 1994

IndolPlex references:

Chen I, MacDougal A, Wang F, Safe S, Aryl hydrocarbon receptor-mediated antiestrogen and antitumorigenic activity of diindolyl methane, *Carcinogenesis* 19;9:1631-1639, 1998

Michnovicz JJ, Bradlow HL, Induction of estradiol metabolism by dietary indol-3-carbinol in humans, *J Natl Cancer Inst*, 82(11):947-9, 1990

Cover CM, Hsieh SJ, Tran SH, Hallden G, Kim GS, Bjeldanes LF, Firestone GL, Indole-3-carbinol inhibits the expression of cyclin-dependent kinase-6 and induces a G1 cell cycle arrest of human breast cancer cells independent of estrogen receptor signaling, *J Biol Chem*, 109:219-228, 1998

Llang J, Mei Q, Da-Zhi C, Anderson A, Gaung-Yu Y, Arbeit J, Auborn K, Indole-3-carbinol prevents cervical cancer in human papilloma virus type 16 (HPV 16) transgenic mice, *Cancer Res*, 59:3991-7, 1999

Bradlow HL, et al, Indole-3-carbinol. A novel approach to breast cancer prevention, *Ann N Y Acad Sci* 768: 180-200, 1995

Ge X, et al, 3, 3'-Diindolylmethane induces apoptosis in human cancer cells, *Biochem Biophys Res Comm* 228; 1: 153-8, 1996

Michnovicz JJ, et al. Changes in levels of urinary estrogen metabolites after oral indole-3-carbinol treatment in humans, *J Nat Cancer Instit*, 89; 10: 718-23, 1997

Telang NT, et al., Inhibition of proliferation and modulation of estradiol metabolism: novel mechanisms for breast cancer prevention by the phytochemical indole-3-carbinol, *Proceed Soc Exper Biol Med* 216; 2: 246-52, 1997

Tiwari TK, Selected responsiveness of human breast cancer cells to indole-3-carbinol, a chemoprevention agent, *J Nat Cancer Inst*, 86; 126-31, 1994

Kyolic references:

Milner JA, Rivlin RS, Recent advances on the nutritional effects associated with the use of garlic as a supplement, *Journal of Nutrition*, 131; 35, March 2001, ISSN 0022-3166 (this whole issue was devoted to Kyolic and its molecular biochemistry with dozens of papers by outstanding scientists from medical schools throughout the United States and the world, detailing its cholesterol-lowering, antioxidant, detoxification boosting, cancer inhibiting, anti-hypertensive, antibiotic-like, and many other properties: physicians can get a copy from Wakunaga)

Yang CS, et al, Mechanisms of inhibition of chemical toxicity and carcinogenesis by diallyl sulfide (DAS) and related compounds from garlic, 1041, *ibid* Milner

Wanibuchi H, et al, Suppression of chemical carcinogenesis by water-soluble or organosulfur compounds, 1049 *ibid*, Milner.

Kyo E, et al, Immunomodulatory effects of aged garlic extract, 1075, *ibid*, Milner.

Kasuga S, et al, Pharmacologic activities of aged garlic extract in comparison with other garlic preparations, 1080, *ibid*, Milner.

Numagami Y, S-allylcysteine inhibits free radical production, lipid peroxidation and neuronal damage in rat brain ischemia, 1100, *ibid*, Milner.

Sivam G, Protection against *Helicobacter pylori* and other bacterial infections by garlic, 1106, *ibid*, Milner.

Hoshino T, Effects of garlic preparations on the gastrointestinal mucosal, 1109, *ibid*, Milner.

Lamm DL, Riggs TR, Enhanced immunocompetence by garlic role in bladder cancer and other malignancies, 1067 s, *ibid*, Milner

Scheer JF, Allison L, Fox C, *The Garlic Cure*, 2002, Alpha-Omega Press 3303 Fiechtner Drive, Fargo ND 58103 (1-800-421-2998 ext. 158)

Geng Z, Lau BHS, Aged garlic extract modulates glutathione redox cycle and superoxide dismutase activity in the vascular endothelial cells, *Phytotherapy Research* 11: 54-56

Sumioka I, et al, Mechanisms of protection by S-allylmercaptocysteine against acetaminophen-induced liver injury in mice, *Jpn J Pharmacol* 78: 199-207, 1998

Wakunaga, *Aged Garlic Extract. Research Excerpts from Peer Reviewed Scientific Journals and Scientific Meetings*, Wakunaga, Mission Viejo CA, 1-800-4 21-2998, March 2000

SeaVive references:

Thomas P D, Nichols TW, Angstadt A, The dietary bioactive peptides in maintaining intestinal integrity and function, *Am J Gastroent*, 96; 9: S311, 2001

Belluzzi A, Brignola C, Campieri M, et al, Effect of an enteric-coated fish-oil preparations on relapses in Crohn's disease, *New Engl J Med* 334; 24: 1557-1560, 1996

Roberts PR, Black KW, Sanyamauro JT, Zaloga GP, Dietary peptides improve wound healing following surgery, *Nutr*, 14; 3: 266-69, 1998

Roberts PR, Zaloga GP, Dietary bioactive peptides, *New Horizons*, 2; 2: 237-243, 1996

Bjarnason I, McPherson A, Hollander D, Intestinal permeability: An overview, *Gastroent* 108: 1566-81, 1995

Bitzen MM, Gold BD, Karmali MA, et al, Inhibition of H. pylori and H. mustalae binding to lipid receptors by bovine colostrum, *J Infect Dis* 177: 955-961, 1998

Francis GL, Upton FM, Wallace JC, et al, Insulin-like growth factors 1 (IGF-1) and 2 (IGF-2) in bovine colostrum, *Biochem J* 251: 95-103, 1988

Harmsen MC, Swart PJ, Meijer DK, et al, Antivirus effects of plasma and milk proteins: Lactoferrin shows potent activity against both human immunodeficiency virus (HIV) and human cytomegalovirus (HCMV) in vitro, *J Infect Dis* 172: 380-388, 1995

Luzio NR, Williams DL, Kitahama A, et al, Comparative tumor-inhibitory and anti-bacterial activity of soluble and particulate glucan, *Interna Cancer* 24: 773-779, 1979

DiRenzo L, Yefenol W, Klein E, The function of human NK cells is enhanced by beta glucan, a ligand of CR3 (CD 11b/CD 18), *Europ J Immunol*, 21: 1755-1758, 1991

Muto S, Vetvicka V, Ross GD, CR3 (CD11b/CD18) (CD11b/CD18) expressed by cytotoxic T cells and NK cells is up-regulated in a manner similar to neutrophils following stimulation with various activating agents, *J Clin Immunol*, 13:175-184, 1993

Vetvicka V, Thornton BP, Ross, GD, Soluble B-glucan polysaccharide binding to the lectin sight on neutrophil or natural killer cell complement receptor type 3 (CD11b/CD18) generates a primed state of the receptor capable of mediating cytotoxicity of iC3b-opsonized target cells, *J Clin Investig* 98: 50-61, 1996

Barbineau TJ, Marcello P, Swails W, et al, Randomized phase I/II trial of the macrophage-specific immunomodulator (PGG-glucan) in high-risk surgical patients, *Ann Surg* 220; 5: 601-609, 1994

Williams DL, Mueller A, Browder W., Glucan-based macrophage stimulators, *Clin Immunother* 5; 5: 392-9, 1996

Felippe J, Silva M, Maciel FM, et al, Infection prevention in patients with severe multiple trauma with the immunomodulator beta 1-3 polyglucose (glucan), *Surg Gynec Obstet* 177; 383-8, 1993

Clark DG, Wyatt K, *Colostrum: Life 's First Food*, CNR publications, Salt Lake City UT 84117, 1996

Moldoveanu Z, et al, Antibacterial properties of milk: IgA peroxidase and lactoferrin interactions, *Ann N Y Acad Sci* 409: 848-850, 1983

Seljelid R, Tumor regression after treatment with aminated beta 1-3D poly glucose is initiated by circulatory failure, *Scand J Immunol* 29; 2:181-192, February 1989

Browder IW, et al. Modification of post- operative *Candida albicans* sepsis by glucan immuno stimulation, *Internat J Immunopharmac*, 6: 19-26, 1984

Janusz MJ, Austen KF, Czop JK (Harvard), Phagocytosis of heat-killed blastospores of *Candida albicans* by human monocyte beta-glucan receptors, *Immunol* 65; 2:181-185, October 1988

Abel G, Czop JK, (Harvard) Stimulation of human monocyte beta-glucan receptors by glucan particles induces production of TNF-alpha and IL-1 beta, *Internat J Immunopharmacol* 14; 8: 1363-73, Nov 1992

Playford RG, Floyd DN, Marchbank T, et al, Bovine colostrum is a health food supplement which prevents NSAIDs induced gut damage, *Gut* 44; 5: 653-658, May 1999

Glycine references:

Shaikh ZA, Tang W, Protection against chronic cadmium toxicity by glycine, *Toxicol* 132; 2-3: 139-46, Feb 15, 1999

Rose ML, Cattley RC, Dunn C, Thurman RG, et al, Dietary glycine prevents the development of liver tumors caused by the peroxisome proliferator WY-14, 643, *Carcinogenesis* 20; 11: 2075-81, Nov. 1999

Wheeler MD, Rose ML, Thurman RG, et al, Dietary glycine blunts lung inflammatory cell influx following acute endotoxin, *Am J Physiol Lung Cell Mol Physiol* 279; 2: L390-8, Aug 2000

Heresco-Levy U, Javitt DC, Lichtenstein M, et al, Efficacy of high dose glycine in the treatment of enduring negative symptoms of schizophrenia, *Arch Gen Psychiat* 56: 29-36, 1999

Zhong Z, Connor HD, Thurman RG, et al, Dietary glycine and renal denervation prevents cyclosporine A-induced hydroxyl radical production in rat kidney, *Mol Pharmacol* 56; 3: 455-63, Sept 1999

Chapter III:

Cooper RL, Kavlock RJ, Endocrine disruptors and reproductive development: a weight-of-evidence overview, *J Endocrinol* 152; 2: 159-166, 1997

Leonard A, Gerber GB, Mutagenicity, carcinogenicity, and teratogenicity of aluminum, *Mutat Res* 196;3:247-2

Perera FP, Environment and cancer: Who are susceptible?, *Sci* 278:1068-73, Nov 7, 1997

DeFlora S, et al, Inhibition of urethane-induced lung tumors in mice by dietary N-acetyl cysteine, *Ca Lett*, 32:235-41, 1986

Anderson JH, Reactions to carpet emissions: A case series, *J Nutr Environ Med*, 7;3: 177-85, 1997

Topparie, *J Environ Health Persp*, 104;4: 41, 1996

Wallace L, et al, Concentrations of 28 volatile organic compounds in air and drinking water of 350 residents of New Jersey compared with concentrations in their exhaled breath, *J Occup Med* 28:603-608, 1986

Beck CM, Garrett JH, *Texas Bug Book*, 1999, University of Texas Press, Box 7819, Austin, TX 78713-7819

Lieberman AD, Craven MR, Lewis HA, Nemenzo JH, Genotoxicity from domestic use of organophosphate pesticides, *J Occup Environ Med*, 40;11:954-7, Nov 11, 1998

Currie KL, McDonald EC, Chung LTK, Higgs AR, Concentration of diazinon, chlorpyrifos, and bendicarb after application in offices, *Am Indust Hyg Assoc J*, 51;1:23-27, 1990

Hoyer AP, Jorgensen T, Brock JW, Hartvig HB, Organochlorine exposure and risk of breast cancer, *Lancet* 352:1816-20, Dec 5, 1998

Halliwell B, Gutteridge JMC, *Free Radicals In Biology and Medicine*, 3rd edition, Oxford University Press, Oxford, 1999

Peters, A, Dockery DW, Mittleman, et al, Increased particulate air pollution and the triggering of myocardial infarction, *Circul*, 103: 2810-2815, 2001

Bemis JC, Seegal RF, Polychlorinated biphenyls and methylmercury alter intracellular calcium concentrations in rat cerebellar granule cells, *NeuroToxicol* 21; 6: 1123-1134, 2000

U.S. EPA, *National Human Adipose Tissue Survey, Vols. I-V*, EPA-560/5-84-003 through 87-035, 1984-1987

Baker EL, A review of recent research on health effects of human occupational exposure to organic solvents. A critical review, *J Occup Med* 36;10:1079-1091, 1994

Arlien-Soborg P, *Solvent Neurotoxicity*, CRC Press, Boca Raton FL, 1992

Kaloyanova F, El Batawi MA, *Human Toxicology of Pesticides*, CRC press, Boca Raton FL 1991

Steventon GB, et al, Xenobiotic metabolism in Parkinson's disease, *Neurol*, 39:883-887, 1989

Steventon GB, et al, Xenobiotic metabolism in Alzheimer's disease, *Neurol*, 40: 1095-1098, 1990

Pearlmutter D, *BrainRecovery.com*, Perlmutter Health Center, Naples FL, or brainrecovery.com, 1998

Rea WJ, *Chemical Sensitivity, Volume I-IV*, CRC Press, Boca Raton, 1992-98 (also American Environmental Health Foundation, 1-800-428-2343)

White RF, Feldman RG, Niles CA, et al, Hazardous waste and neurobehavioral effects: A developmental perspective, *Environ Res*, 73:113-24, 1997

Gunnarsson LG, Bodin L, Axelson O, et al., A case-control study of motor neurone disease: its relation to heritability, and occupational exposures, particularly to solvents, *Brit J Indust Med* 49:791-798, 1992

Anonymous, Pesticides tied to Parkinson's disease, *Sci News*, 158, Dec 2, 2000

Betarbet R, Sherer TB, Greenamyre JT, Chronic systemic pesticide exposure reproduces features of Parkinson's disease, *Nature Neurosci*, 3;12:301-1315, Dec 2000

Turosov V, Rakitsky V, Tomatis L, Dichlorodiphenyltrichloroethane (DDT): Ubiquity, persistence and risks, *Environ Health Persp*, 110; 2: 125-128, Feb 2002

Colborn T, Dumanowski D, Myers, JP, *Our Stolen Future*, Dutton (Penguin books) New York, 1996

Repetto R, Baliga SS, *Pesticides and the Immune System: The Public Health Risks*, World Resources Institute, Greenpeace, PO Box 4852, Hampden Station, Baltimore MD, 1996

U.S. Environmental Protection Agency, *Broad scan analysis of the FY82 National Human Adipose Tissue Survey Specimens*, EPA-560/5-86-035, Dec 1986; *Characterization of HRGC/MS unidentified peaks from the analysis of human adipose tissue*, EPA-560/5-87-002A, May 1987

U.S. Environmental Protection Agency, *Chemicals identified in human biological media, a data base*. EPA-560/5-84-003, 1984.

Sullivan JB, Kreiger GR, eds., *Hazardous Materials Toxicology: Clinical principles of environmental health*, Williams & Wilkins, Baltimore, 1992

U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry, *Case studies in environmental medicine*, Vol. 10, *Cadmium Toxicity*, 1-19, June 1990

Leibman KC, Metabolism and toxicity of styrene, *Environ Health Persp*, 11: 115-19, 1975

U.S. EPA, Office of Health and Environmental Assessment, *Health Assessment Document for Toluene*, EPA-600/8-82-008F, Washington D.C. 20460, August 1983

Pelletier L, et al, Autoreactive T-cells in mercury-induced autoimmunity, *J Immunol* 140: 74-77, 1988

Solonen JT, et al., Intake of mercury from fish, lipid peroxidation, and the risk of myocardial infarction and coronary, cardiovascular, and early death in eastern Finnish men, *Circul*, 91:645-55, 1995

Vimy M, et al., Mercury released from the dental "silver" fillings provokes an increase in mercury and antibiotic-resistant bacteria in oral and intestinal flora of primates, *Antimicrob Agents Chemother* 37:825-34, 1993

Crinnion WJ, Long term effects of chronic low-dose mercury exposure, *Alt Med Rev*, 5; 3: 209-223, June 2000

Sood PP, et al. Cholesterol and triglyceride fluctuations in mice tissues during methylmercury intoxication and monothiols and vitamin therapy, *J Nutri Environ Med* 7; 3:155-162, 1997

Rogers SA, *Depression Cured At Last!*, Prestige Publishing (prestigepublishing.com or 1-800-846-6687), Syracuse NY, 1998

Rogers SA, *No More Heartburn*, Prestige Publishing (prestigepublishing.com or 1-800- 846-6687), Syracuse NY, 2000

Rogers SA, *Pain Free in 6 Weeks* Prestige Publishing (prestigepublishing.com or 1-800846-6687), Syracuse NY, 2001

Sellars W. A., Sellars R, Liang L, Hefley J.D, Methyl mercury in dental amalgams in the human mouth, *J Nutr Environ Med* 6; 1: 33-36, 1996

Stortebecker P, *Mercury Poisoning from Dental Amalgam, a Hazard to Human Brain*, Bio-Probe Orlando, FL, 1985

Grandjean P, Weihe P, Needham LL, et al, Relation of a seafood diet to mercury, selenium, arsenic, polychlorinated biphenyls and other organochlorine concentrations in human milk, *Environ Res* 71: 29-38, 1995

Vimy MF, Lorscheider FL, Serial measurements of intra-oral air mercury: estimation of daily dose from dental amalgams, *J Dent Res*, 64: 1072-75, 1985

Engqvist A, Colmsjo A, Skare I, Speciation of mercury excreted in feces from individuals with amalgam fillings, *Health Arch Environ*, 53: 205-13, 1998

DeSouza Queiroz ML, Pena SC, Saller TSI, et al, Abnormal antioxidant system in erythrocytes of mercury exposed workers, *Human & Exp Toxicol*, 17: 225-30, 1998

Hahn LJ, Kloiber R, Leininger RW, et al, Whole body imaging of the distribution of mercury released from dental fillings into monkey tissue, *FASEB J*, 4; 3256-3260, 1990

Cavalleri A, Gobba F, Reversible color vision loss in occupational exposure to metallic mercury, *Environ Res*, 77: 173-77, 1998

InSug O, Datar S, Koch CJ, et al, Mercury compounds inhibit human monocyte function by inducing apoptosis: evidence for formation of reactive oxygen species, development of mitochondrial membrane permeability transition and loss of reductive reserve, *Toxicol*, 124: 211- 24, 1997

Shenker BJ, Guo TL, Shapiro IM, Low-level methylmercury exposure causes human T-cells to undergo apoptosis: evidence of mitochondrial dysfunction, *Environ Res* 77: 149-59, 1998

Coccini T, Randine G, Candura SM, et al, Low-level exposure to methylmercury modifies muscarinic cholinergic receptor binding characteristics in rat brain and lymphocytes: physiologic implications and new opportunities in biological monitoring, *Environ Health Perspect*, 108:29-33, 2000

Atchison WD, Hare MF, Mechanisms of methylmercury-induced neurotoxicity, *FASEB J*, 8: 622-29, 1994

Ngim CH, Foo SC, Boey KW, Jeyaratnam J, Chronic neurobehavioral effects of elemental mercury in dentists, *Brit J Indust Med*, 49: 782-790, 1992

Pendergrass JC, Haley BE, Vimy MJ, et al, Mercury vapor inhalation inhibits binding of GTP Tubulin in rat brain: similarity to a molecular lesion in Alzheimer's disease brain, *Neurotox* 18: 315-24, 1997

Bigazzi PE, Lessons from animal models: the scope of mercury-induced autoimmunity, *Clin Immunol Immunopathol*, 65: 81-84, 1992

Enestrom S, Hultman P, Dose-response studies in murine mercury-induced autoimmunity and immune-complex disease, *Toxicol Appl Pharma* 113: 199-208, 1992

Homma-Takeda S, Takenaka Y, Kumagai Y, Shimojo N, Selective induction of apoptosis of renal tubular cells caused by inorganic mercury in vivo, *Environ Toxicol Pharmacol* 7: 179-87, 1999

Kolata G, New suspect in bacterial resistance: amalgam, *New York Times*, Apr. 24, 1993

Abe T, Ohtsuka R, Hongo T, et al, High hair and urinary mercury levels of fish eaters in the nonpolluted environment of Papua New Guinea, *Arch Environ Health*, 50: 367-373, 1995

Halback S, Kremers L, Willruth H, Mehl A, Welzl G, Wack FX, Hickel R, Greim H, Systemic transfer of mercury from amalgam fillings before and after cessation of emission, *Environ Res*, 77: 115-123, 1998

Dirks MJ, Davis DR, Cheraskin E, Jackson JA, Mercury excretion and intravenous ascorbic acid, *Arch Environ Health*, 49: 49-52, 1994

Hibberd AR, Howard MA, Hummisett AG, Mercury from dental amalgam fillings: studies on oral chelating agents for assessing and reducing mercury burdens in humans, *J Nutr Environ Med*, 8: 219-231, 1998

Siblerud RL, Kienholz E, Evidence that mercury from silver dental fillings may be an etiological factor in reduced nerve conduction velocity in multiple sclerosis patients, *J Nutr Environ Med*, 12;3:169-72, 1997

Phillips H, Cole PV, Lettin AW, Cardiovascular effects of implanted acrylic bone cement, *Br Med J*, 3:460, 1971

- Gresham GA, Kuczmski A, Cardiac arrest and bone cement, *Br Med J*, 3:465, 1980
- Kepes ER, Underwood PS, Becsey L, Intraoperative death associated with acrylic bone cement, *J Amer Med Assoc*, 222:576, 1972
- Hyland J, Robbins RHC, Cardiac arrest and bone cement, *Br Med J*, 4:176, 1970
- Oppenheimer BS, Oppenheimer ET, Danishefsky I, Malignant tumors resulting from embedding plastics in rodents, *Sci*, 118:305, 1953
- Andrews LS, Clary JJ, Review of toxicity of multifunctional acrylates, *J Toxicol Environ Health*, 19:149-64, 1986
- Kraul I, Karloug P, Persistent organochlorinated compounds in human organs collected in Denmark 1972-1973, *Acta Pharmacol Toxicol*, 38:38-48, 1976
- Wolff MS, Anderson HA, Selikoff IJ, Human tissue burdens of halogenated aromatic chemicals in Michigan, *J Amer Med Assoc*, 247:2112-2116, 1982
- Salonen JT, et al, Mercury accumulation and accelerated progression of carotid atherosclerosis: a population-based prospective 4-year follow-up study in man in eastern Finland, *Atheroscler*, 148:265-273, 2000
- Arnold SF, et al, Synergistic activation of estrogen receptors with combinations of environmental chemicals, *Sci*, 272:1489-1492, 1996
- Porterfield S, Vulnerability of the developing brain to thyroid abnormalities: Environmental insults to the thyroid system, *Environ Health Persp* 102; 2: 125-30, 1994
- Howdeshell KL, Hotchkiss AK, Thayer KA, et al, Exposure to bisphenol A advances puberty, *Nature* 401:763-64, 1999
- Blount BC, Silva MJ, Caudill SP, et al. Levels of seven urinary phthalate metabolites in a human reference population, *Environ Health Persp*, 108:972-82, 2000
- Weisglas-Kuperus N, Sas TCJ, Sauer PJJ, et al, Immunological effect of background prenatal and postnatal exposure to dioxins and polychlorinated biphenyls in Dutch infants, *Ped Res*, 38:404-410, 1995
- Vonier PM, Crain DA, Arnold SF, et al, Interaction of environmental chemicals with the estrogen and progesterone receptors from the oviduct of the American alligator, *Environ Health Perspect*, 104:1318-22, 1996

Saenz CA, Bondiovanni AM, Conde L, An epidemic of precocious development in Puerto Rican children, *J Ped*, 107:393-6, 1985

Imajima T, Shono T, Suita S, et al, Prenatal phthalate causes cryptorchidism postnatally by inducing transabdominal ascent of the testes in fetal rats, *J Ped Surg*, 32:18-21, 1997

Fredericsson B, Muller L, Westerholm R, et al, Human sperm motility is affected by plasticizers and diesel particle extracts, *Pharmacol Toxicol*, 72:128-133, 1993

Colon I, Caro D, Rosario O, et al. Identification of phthalates esters in the serum of young Puerto Rican girls with premature breast development, *Environ Health Persp*, 108:895-900, 2000

Colborn T, van Saal FS, Soto AM, Developmental effects of endocrine-disrupting chemicals in wildlife and humans, *Environ Health Persps* 101:378-84, 1993

Phillips G. B., Pinkernell BH, Jing TY, The association of hypo-testosteronemia with coronary artery disease in men, *Arterioscler Thrombos*, 14: 701-06, 1994

Wiseman H, Halliwell B, Damage to DNA by reactive oxygen and nitrogen species: role in inflammatory disease and progression to cancer, *Biochem J*, 313:17-29, 1996

Bemis JC, Seegal RF, Polychlorinated biphenyls and methylmercury alter intracellular calcium concentrations in rats cerebellar granule cells, *Neurotox*, 21; 6:1123-1134, 2000

Lifton B, *Bug Busters, Poison-free Pest Controls for Your House & Garden*, Avery Publ, Garden City Park, NY, 1991

Echeverria D, Heyer NJ, Martin MD, Naleway CA, et al., Behavioral effects of low-level exposure to Hg among dentists, *Neurotox Terat*, 17; 2: 161-1 68, 1995

Berkson, DL, *Hormone Deception*, Contemporary Books, NTC/Contemporary publishing, 4255 West Touhy Ave., Lincolnwood (Chicago) Illinois 60712-1975, 2000

Glenmullen J, *Prozac Backlash*, Simon & Schuster, NY, 2000

Breggin PR, *Talking Back to Ritalin*, Common Courage Press, P.O. Box 702, Munroe ME 04951, 1998

Breggin PR, *Toxic Psychiatry*, St. Martin' s Press, NY, 1991

Moore TJ, *Deadly Medicine*, Simon & Schuster, NY, 1995

Epstein SS, *The Politics of Cancer Revisited*, , East Rage Press, Fremont Center, NY, 1998

Haley D, *Politics In Healing, The Suppression and Manipulation of American Medicine*, Potomac Valley Press, Washington D.C., 2000

Fagin D, Lavelle M, Center for Public Integrity, *Toxic Deception. How the chemical industry manipulates science, bends the law, and endangers your health*. A Birch Lane Press, Carol Publishing, 120 Enterprise Ave., Secaucus NJ 07094, 1996

Moss RW, *Questioning Chemotherapy*, Equinox Press, NY, 1995

Moore, TJ *Prescription for Disaster*, Simon & Schuster, NY, 1998

Cohen JS, *Over Dose, The Case Against the Drug Companies*, Tarcher/Penguin/Putnam, NY, 2001

Choudhry NK, Stelfox HT, Detsky AS, Relationships between authors of clinical practice guidelines and the pharmaceutical industry, *J Am Med Assoc*, 287; 5: 612-617, Feb. 6, 2002

Brucker DF,, Effects of environmental synthetic chemicals on the thyroid function, *Thyroid*, 8:827-56, 1998

Gupta P, Kar A, Role of ascorbic acid in cadmium-induced thyroid dysfunction and lipid peroxidation, *J Appl Tox*, 18: 317-320, 1998

O'Reilly DS, Thyroid function tests -- time for a reassessment, *Brit Med J*, 320: 1332-1334, 2000

Olivieri O, Low selenium status in the elderly influences thyroid hormones, *Clin Sci*, 27: 48-52, 1995

Divi R, et al, Anti-thyroid isoflavones from soybean: isolation, characterization, and mechanisms of action, *Biochem Pharmacol*, 54: 1087-96, 1997

Osius N, Karmaus W, Witten J, et al., Exposure to polychlorinated biphenyls and levels of thyroid hormones in children, *Environ Health Persp*, 107: 843-9, 1999

Pavia JM, Paier B, Zaninovich A, et al, Evidence suggesting that cadmium induces a non-thyroidal illness syndrome in the rat, *J Endocrinol* 154: 113-7, 1997

Shames RL, Shames KH, *Thyroid Power: 10 Steps to Total Health*, Harper Collins Publishers, NY 2001

Kohn MC, et al, A mechanistic model of effects of dioxins on thyroid hormones in the rat, *Toxicol Appl Pharmacol*, 165: 29-48, 1996

Benevicius R, et al, Effects of thyroxine as compared with thyroxine plus triiodothyronine in patients with hypothyroidism, *New Engl J Med*, 340: 424-9, 1999

Tomer Y, Davies TF, Infection, thyroid disease and autoimmunity, *Endocr Rev*, 14; 1: 107-120, 1993

Skinner G, et al, Thyroxine should be tried in clinically hypothyroid but biochemically euthyroid patients, *Brit Med J*, 314:1764-1765, 1997

Robbins J., Factors altering thyroid hormone metabolism, *Environ Health Perspect*, 38: 65-70, 1981

Jackson I, The thyroid axis and depression, *Thyroid*, 8: 951-6, 1998

Gupta P, Kar A, Cadmium induced thyroid dysfunction in chicken: hepatic type 1 iodothyronine 5'-monodeiodinase activity and role of lipid peroxidation, *Comp Biochem Physiol Pharmacol Toxicol Endocrinol*, 123: 39-44, 1999

Colburn T, Dumanowski D, Myers JP, *Our Stolen Future*, Penguin Books, New York 1996

Steingraber S, *Living Downstream*, Addison-Wesley Publishing, New York, 1997

Cadmium/prostate cancer references:

Waalkes MP, Rehm S, Cadmium and prostate cancer, *J Toxicol Environ Health*, 43: 251-269, 1994

Coogan TP, Bare RM, Waalkes MP, Cadmium-induced DNA damage: Effects of zinc pretreatment, *Tox Appl Pharm*, 113: 227-233, 1992

Heath JC, Daniel IR, Webb M., et al, Cadmium as a carcinogen, *Nature*, 193: 592-593, 1962

Kipling M.D., Waterhouse JH, Cadmium and prostatic carcinoma, *Lancet* i: 730-731, 1967

Piscator M, Role of cadmium in carcinogenesis with special reference to cancer of the prostate, *Environ Health Persp*, 40: 107-120, 1981

Visser, AJ, Deklerk JN, The effect of dietary cadmium on prostate growth, *Trans Am Assoc G-U Surg*, 70: 66-68, 1979

Waalkes MP, Rehm Coogan TP, et al, Cadmium exposure in rats and tumors of the prostate. In *Cadmium in the Human Environment: Toxicity and Carcinogenicity*, eds. GF Nordberg, L Allessio and RFM Herber, pp 390-400, Lyon: IARC

Webber MM, Selenium prevents the growth stimulatory effects of cadmium on human prostatic endothelium, *Biochem Biophys Res Comm*, 127: 871-877, 1985

Nakhala AM, Estradiol activates the prostate androgen receptor and prostate-specific antigen secretion through the intermediacy of sex hormone-binding globulin, *Biolog Chem*, 272; 11: 6838-41, 1997

Bradlow HL, Davis DL, Lin G, et al. Effects of pesticides on the ratio of 16a/2-hydroxyestrogen: a biological marker of breast cancer risk, *Environ Health Persp*, 103 (supple 7): 147-50, 1995

Baldi I, Filleul L, Mohammed-Brahim B, Brochard P, et al Neuropsychological effects of long-term exposure to pesticides: Results from the French Phytoneer study, *Environ Health Persp*, 109; 8: 839-44, Aug. 2001

Arbuckle TE, Lin Z, and Mery LS, An exploratory analysis of the effect of pesticide exposure on the risk of spontaneous abortion in an Ontario farm population *Environ Health Persp*, 109; 8: 851-58, Aug. 2001

Turusov V, Rakitsky V, Tomatis L, Dichlorodiphenyltrichloroethane (DDT): Ubiquity, persistence, and risks, *Environ Health Persp* 110; 2: 1 25-1 28, 2002

Fialka JJ, EPA report says pollution-control effort is hurt by bureaucracy, lack of funds, *Wall Street Journal*, A28, March 12, 2002

Rinsky RA, Smith AB, Landrigan PJ, et al, Benzene and leukemia, and epidemiologic risk assessment, *New Engl J Med*, 316: 10 44-10 50, 1987

Fuhrmans V, Naik G, In Europe, prescription-drug ads are banned, and health care costs lower, *Wall Street Journal*, B1, Mar 15, 2002

Washam C, Slowing the rat race, low-doses dioxin alters behavior, *Environ Health Persp*, 109; 6:A 279, June 2001

Stelfox HT, Chua G, O'Rourke K, Detsky AS, Conflict of interest in the debate over calcium-channel antagonist, *New Engl J Med* 338: 101-106, 1998

Fialka JJ, Tiny soot particles in pollution in cities tied to early death, *Wall Street Journal*, A 2, March 6, 2002

Bralley JA, Lord RS, *Laboratory Evaluations in Molecular Medicine*, Institute for Advances in Molecular Medicine, Norcross GA, 1-800-221-4640, 2001

Chapter III:

Curley A, Kimbrough R, Chlorinated hydrocarbon insecticides in plasma and milk of pregnant and lactating women, *Arch Environ Health*, 18: 156-64, 1969

Dale WE, Quinby GE, Chlorinated insecticides in the body fat of people in the U.S., *Sci*, 142: 593-95, 1963

Hoffman WS, Fishbein WI, Andelman MB, Pesticide storage in human fat tissue, *J Am Med Assoc*, 188: 819, 1964

Quinby GE, Hayes WJ, Armstrong JF, Durham WF, DDT storage in the U.S. population, *J Am Med Assoc*, 191: 109-113, 1965

Morgan DP, Roan CC, Chlorinated hydrocarbon pesticide residue in human tissues, *Arch Environ Health*, 20: 452-57, 1970

Radomski JL, Deichmann WB, Merkin T, et al, Human pesticide blood levels as a measure of body burden and pesticide exposure, *Toxicol Appl Pharmacol*, 20: 175-85, 1971

Brown JR, Concentrations of chlorinated hydrocarbon pesticides in human blood and their relation to the concentration in depot fat, *Toxicol Appl Pharmacol*, 22,327 (abstr. No. 141) 1972

Morgan DP, Roan CC, Absorption, storage and metabolic conversion of ingested DDT and DDT metabolite in man, *Arch Environ Health* 22: 301-308, 1971

DeVlieger M, Robinson J, vanDijk MC, et al, The organochlorine insecticides content of human tissues, *Arch Environ Health*, 17: 7 59-67, 1968

Turosov V, Rakitsky V, Tomatis L, Dichlorodiphenyltrichloroethane (DDT): Ubiquity, persistence, and risks, *Environ Health Persp*, 110; 2: 125-128, 2002

WHO (World Health Organization). *Safe Use of Pesticides*. WHO Technical Report Series No. 513, Geneva: World Health Organization, 1973

Crinnion WJ, Environmental medicine, part 4: Pesticides -- Biologically persistence and ubiquitous toxins, *Alt Med Rev*, 5; 5: 4 32-47, 2000

Martin J. A., Smith BL, Mathews TJ, Ventura SJ, Birth and deaths: Preliminary data for 1998. National Vital Statistics Reports, 47; 25: Hyattsville MD, National Center for Health Statistics, 1999

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for 1,4-Dichlorobenzene*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Dec 1998

EPA. U.S. Environmental Protection Agency. *Polychlorinated biphenyls in human adipose tissue and mother's milk*. Washington D.C., PB83-253179, 1982

EPA. *Intrauterine exposure of humans to PCBs (polychlorinated biphenyls): Newborn effects*, Duluth MN. U.S. Environmental Protection Agency, EPA 600/3-84-060. NTIS PB84-188887, 1984

EPA. *Baseline estimates and time trends for beta-benzene hexachloride, hexachlorobenzene, and polychlorinated biphenyls in human adipose tissue 1970-1983*. EPA 560/5-85-025. Washington D.C.: Office of Toxic Substances, Exposure Evaluation Division, U.S. Environmental Protection Agency, 1985

EPA. U.S. and Environmental Protection Agency. *Health assessment document for chlorinated benzenes. Final report*. Office of Health and Environmental Assessment, EPA, Washington D.C.. EPA/600-8-84 1015F, 1985

EPA. U.S. Environmental Protection Agency. *Broad scale analysis of the FY 82 national human adipose tissue survey specimens. Volume II: Volatile organic compounds*. EPA 560/5-86-036. Office of Toxic Substances. Washington D.C., 1986

EPA. *Broad scale analysis of the FY 82 national human adipose tissue survey specimens. Volume III: Semi-volatile organic compounds*. EPA 560/5-86-036. Office of Toxic Substances. Washington D.C., U.S. Environmental Protection Agency 1986

EPA. *National study of chemical residues in fish. Volume I*, U.S. Environmental Protection Agency. EPA 823-R-92-008a. 1992

EPA. *National listing of fish and wildlife consumption advisories*. U.S. Environmental Protection Agency, Office of Water. EPA-823-C-96-011. 1996

EPA. *Special report on environmental endocrine disruption: And effects assessment and analysis*. Washington D.C., U.S. Environmental Protection Agency, Risk Assessment Forum. EPA/630/R-96/012. 1997

Falck F, Ricci A, Wolff MS, et al, Pesticides and polychlorinated biphenyl residues in human breast tissue and their relation to breast cancer. *Arch Environ Health* 47; 2: 143-46, 1992

Finklea DJ, Priester LE, Creason JP, et al, Polychlorinated biphenyls residues in human plasma exposed a major urban pollution problem. *Am J Publ Health* 62: 645-51, 1972

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Selected PCBs (Aroclor-1260, -1254, -1248, -1242, -1232, -1221, and -1016)*, Agency for Toxic Substances and Disease Registry, Atlanta GA, Apr 1993

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Tetrachloroethylene*, and Agency for Toxic Substances and Disease Registry, Atlanta GA, Apr 1993

Wiseman H, Halliwell B, Damage to DNA by reactive oxygen and nitrogen species: role in inflammatory disease and progression to cancer, *Biochem J* 313:17-29, 1996

Rundle A, Tang D, Perera FP, et al, The relationship between genetic damage and polycyclic aromatic hydrocarbons in breast tissue and breast cancer, *Carcinogenesis* 21; 7: 1281-89, 2000

Reigart JR, Roberts JR, *Recognition and Management of Pesticide Poisonings*, 5th ed., EPA, Washington D.C. 20460, 1999

Lieberman AD, Craven MR, Lewis HA, Nemenzo JH, Genotoxicity from domestic use of organophosphate pesticides, *J Occupat Environmental Med*, 40;11:954-7, Nov 11, 1998

Currie KL, McDonald EC, Chung LTK, Higgs AR, Concentration of diazinon, chlorpyrifos, and bendicarb after application in offices, *Am Ind Hyg Assoc J*, 51;1:23-27, 1990

Hoyer AP, Jorgensen T, Brock JW, Hartvig HB, Organochlorine exposure and risk of breast cancer, *Lancet* 352:1816-20, Dec 5, 1998

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Trichloroethylene*, Agency for Toxic Substances and Disease Registry, Atlanta GA, September 1997

Burmester GE , The new pollution-groundwater contamination. *Environment* 24: 7-13, 33-36, 1982

Dyksen JE, Hess AF, Alternatives for controlling organics in groundwater supplies, *J Am Water Works Assoc* 74: 394-403, 1982

Page JW, Comparison of groundwater and surface water for patterns and levels of contamination by toxic substances. *Environ Sci Technol* 15: 1475-81, 1981

Avorn J, Bohn RL, Walker A, et al, Neuroleptic drug exposure and treatment of parkinsonism in the elderly: A case-control study, *Am J Med* 99: 48-54, July 1995

Hardy JE, *Mercury-Free*, STCS Distributors, Glassboro NJ , 1-800-266-5564, 1996

Breiner MA, *Whole-Body Dentistry*, Quantum Health Press, Fairfield CT, 1-888-277-1328, 1999

Casdorph HR, Walker M., *Toxic Metal Syndrome. How Metal Poisonings Can Affect Your Brain*, Avery Publishing, Garden City Park, New York, 1995

Huggins H, *It s All In Your Head*, and *What Price Root Canals*, both available 719-522-0566

U.S. EPA, *Health Assessment Document for Toluene*, Office of Health and Environmental Assessment, Washington D.C. 20460, EPA-600/8-82-008F, Aug 1983

(USDHHS) U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Diethyl Phthalate*, Agency for Toxic Substances and Disease Registry, Atlanta GA, June 1995

U.S. Department of Health & Human Services, *Case Studies in Environmental Medicine. Cyanide Toxicity*, Centers for Disease Control, Agency for Toxic Substances and Disease Registry, Atlanta GA 30333, Nov 1991

Vastag B, CDC unveils first report on toxins in people, *J Am Med Assoc*, 285; 14: 1827-26, Apr 11, 2001

Jones DP, Chemical levels detected in people alarm scientists, *LA Times*, A14, Aug. 21, 2000

(CDC) Centers for Disease Control and Prevention, *National Report on Human Exposure to Environmental Chemicals*, NCEH publication No. 01-0164, CDC, National Center for Environmental Health, Atlanta GA, 1-866-690-6052, March 2001

Ross GL, Rogan WJ, Collignon P, et al, The DDT question. *Lancet*, 356:1189-91, 2000

Castle L, Mercer AJ, Startin JR, et al, Migration from plasticized films into foods: 3. Migration of phthalate, sebacate, citrate and phosphate esters from films used for retail food packaging. *Food Addit Contam* 5; 1: 9-20, 1988

Eriksson P, Jakobsson E, Fredriksson A, Brominated flame retardants: A novel class of developmental neurotoxicants in our environment? *Environ Health Persp* 109; 9: 903-08 Sept 2001

Quiao D, Seidler FJ, Stlotkin TA, Developmental neurotoxicity of chlorpyrifos models in vitro: Comparative effects of metabolites and other cholinesterase inhibitors on DNA synthesis in PC12 and C6 cells, *Environ Health Persp* 109; 9: 909-14, Sept 2001

Muckle G, Ayotte P, Jacobson JL, et al, Determinants of polychlorinated biphenyls and methylmercury exposure in Inuit women of childbearing age, *Environ Health Persp* 109; 9: 957-64, Sept 2001

Mielke HW, Powell ET, Mielke PW, et al, Multiple metal contamination from housepaints: Consequences of power standing and paint scraping in New Orleans, *Environ Health Persp* 109; 9: 93-78, Sept 2001

Baskin LS, Himes K, Colburn T, Hypospadias and endocrine disruption: Is there a connection? *Environ Health Persp* 109; 9: 1175-84, Sept 2001

Reynolds P, Von Behren J, Harnley ME, et al, Childhood cancer and agricultural pesticide use: An ecologic study in California, *Environ Health Persp* , 110; 3: 319-24, Mar 2002

Casdorff HR, Walker M, *Toxic Metal Syndrome. How Metal Poisonings Can Affect Your Brain*, Avery Publ, NY, 1995

Hardy J., *Mercury-Free*, Gabriel Rose Press, STCS Distributors, Box 246, Dept. BK, Glassboro NJ, 08028-0246, 1-800-266-5564

Bahn AK, Mills JL, Snyder PJ, et al, Hypothyroidism in workers exposed to polybrominated biphenyls, *New Engl J Med* 302; 1: 31-33, 1980

Rundle A, Tang D, Perera P, et al, The relationship between genetic damage from polycyclic aromatic hydrocarbons in breast tissue and breast cancer, *Carcinogenesis* 2; 7: 1281-89, 2000

Kadiisilka RI, Dikalova A, Thurman RG, et al, Phthalate rapidly increases production of reactive oxygen species in vivo: role of Kupffer cells, *Mol Pharmacol*, 59; 4: 744-50, Apr 2001

Fleming L, et al, Parkinson's disease and brain level of organochloride pesticides, *Ann Neurol* 36; 1: 100-103, 1994

Vaziri ND, et al, Induction of oxidative stress by glutathione depletion causes severe hypertension in normal rats, *Hypertension* 36: 142-146, 2000

Bell FP, Effects of phthalate esters on lipid metabolism in various tissues, cells and organelles in mammals, *Environ Health Persp* 45: 41-50, 1982

War and JR, et Al, Phthalate esters as peroxisome proliferator carcinogens, *Environ Health Persp*, 45: 35-40, 1982

Rock G, et Al Hypotension and cardiac arrest in rats after infusion of mono (2-ethylhexyl) phthalate (MEHP), a contaminant in stored blood, *New Engl J Med*, 316; 19: 148-49, May 7, 1987

Sterzl I, et al, Mercury and nickel allergy: risk factors in fatigue and autoimmunity, *Neuroendocrinology Letters* 20: 221-28, 1999

Unger M. Olsen J, Organochlorine compounds in the adipose tissue of deceased people with and without cancer, *Environ Res* 23: 257-63, 1980

Rea WJ, Ross GH, Fenyves EJ, et al, Chemical sensitivity and physicians, *Bol Asoc Med P Rico* 83; 9: 283-88, Sept 1991

Chapter IV: (also see the critical and voluminous references at the end of chapter 4 that accompany the insurance letter):

Rogers SA, *Tired Or Toxic?*, Prestige Publishing, Syracuse NY 1990

Packer L, *The Antioxidant Miracle*, John Wiley and Sons, New York 1999

Skaper SD, et al, Quercetin protects cutaneous tissue-associated cell types including sensory neurons from oxidative stress induced by glutathione depletion: cooperative effects of ascorbic acid, *Free Rad Biol Med*, 22: 669-78, 1997

Trickler D, Shklar G, Schwartz J, *Nutrition Cancer*, 20; 2: 139-44, 1993

Nuttall SL, Martin U, Kendall MJ, et al., Glutathione: in sickness and in health, *Lancet*, 351: 645-646, Feb. 28, 1997

Novi, *Science*, 212:5451, 1981

Hoff, *Liver* 12: 3412, 1992

Zucker, *FEBS Lett*, 155; 1: 107, 1983

Gregus , Fekete T, Varga F, et al, Dependence of glycine conjugation on availability of glycine: role of the glycine cleavage system, *Xenobiotica*, 23: 141-53, 1993

Temellini A, Mogavero S, Guilianotti P, et al. Conjugation of benzoic acid with glycine in human liver and kidney: a study on the interindividual variability, *Xenobiotica* 23: 1400 27-33, 1993

Chaudhari A, Dutta S, Alterations in tissue glutathione and angiotensin converting enzyme due to inhalation of diesel engine exhaust, *J Toxicol Environ Health*, 9: 327-37, 1982

Fahy O, Tsiropoulos A, Wallaert B, et al., Effects of the diesel organic extracts on chemokine production by the peripheral blood mononuclear cells, *J Allergy Clin Immunol*, 103:1115-24, 1999

Neln A, Diaz-Sanchez D, Saxon A, Enhancement of allergic inflammation by the interaction between diesel exhaust particles and the immune system, *J Allergy Clin Immunol*, 102: 5 39-54, 1998

Peterson G, Saxon A, global increases in allergic respiratory disease: the possible role of diesel exhaust articles, *Ann Allergy, Asthma Immunol* 77: 263-70, 1996

Perera FP, Molecular epidemiology: insights into cancer susceptibility, risk assessment and prevention, *J Nat Cancer Inst* 88; 8: 496-509, April 17 1996

Ackerson Amber, Dietary regulation of detoxication, *Altern Comple Ther*, 310-15, Sept/Oct 1996

Manson MM, Ball HWL, Neal GE, et al., Mechanism of action of dietary chemoprotective agents in rat liver: induction of phase I and II drug metabolizing enzymes and aflatoxin B1 metabolism, *Carcinogenesis* 18; 9: 1729-1738, 1997

Heuser C, Vojdani A, Enhancement of natural killer cell activity and T and B cell function by buffered vitamin C (ultra potent-C), in patients exposed to toxic chemicals: the role of protein kinase-C, *Immunopharmacol Immunotoxicol* 19:291, 1997

- Lenton KJ, Therriault H, Wagner JR, et al, Glutathione and ascorbate are negatively correlated with oxidative DNA damage in human lymphocytes, *Carcinogenesis* 20; 4: 607-613, 1999
- Kilburn KH, Warsaw RH, Shields MG, Neurobehavioral dysfunction in firemen exposed to polychlorinated biphenyls (PCBs): Possible improvement after detoxification, *Arch Environ Health*, 44;6:345-350, 1989
- Schnare DW, Ben M, Shields MG, Body burden reductions of PCBs, PBBs and chlorinated pesticides in human subjects *Ambio*, 13;5-6:378-80, 1984
- Roehm DC, Effects of a program of sauna baths and megavitamins on adipose DDE and PCBs and on clearing of symptoms of agent orange (Dioxin) toxicity, *Clin Res* 31;2:243A, 1983
- Rea W. J., Pan Y, Fenyves, EJ, et al. Reduction of chemical sensitivity by means of heat depuration, physical therapy and nutritional supplementation in a controlled environment, *J Nutr Environ Med*, 7; 2: 141-48, 1996
- Hubbard LR, *Clear Body Clear Mind*, Bridge Publications, 4751 Fountain Avenue, Los Angeles CA 90029, 1990, 1-888-514-8788
- Muckle G, Ayotte P, Jacobson JL, et al, Prenatal exposure of the Northern Quebec Inuit infants to environmental contaminants, *Environmental Health Perspectives*, 109; 12: 1291-1299, Dec 2001
- Persky V, Turyk M, Great Lakes Consortium, et al, The effects of PCB exposure and fish consumption on endogenous hormones, *Environmental Health Perspectives*, 109; 12: 1275-1283, Dec2001
- Schantz SL, Widholm JJ, Cognitive effects of endocrine-disrupting chemicals in animals, *Environmental Health Perspectives*, 109; 12: 1197-1206, Dec 2001
- Imamura M, Biro S, Kihara T, Tei C, et al, Repeated thermal therapy improves impaired vascular endothelial functions in patients with coronary risk factors, *J Am Coll Cardiol*, 38; 4: 1083-1087, 2001
- Ikeda Y, Biro S, Kamogawa Y, et al, Repeated thermal therapy upregulates arterial endothelial nitric oxide synthase expression in Syrian golden hamsters, *Jpn Circul J*, 65: 4 34-4 38, 2001
- Schwartz J, Otto D, Lead and minor hearing impairment, *Arch Environ Health* 46: 300-3005, 1991

Schwartz J, Low-level lead exposure and children's IQ: a meta-analysis and search for a threshold, *Environ Res* 65: 42-55, 1994

Lanphear BP, Dietrich KN, Auinger P, Cox C, Cognitive deficits associated with blood lead levels <10ug/dl in U.S. children and adults, *Public Health Rep*, 115: 521-529, 2000

Zanobetti A, Schwartz J, Dockery DW, Airborne particles are a risk factor for hospital admissions for heart and lung disease, *Environ Health Persp* 108: 1071-77, 2000

Choudhry NK, Stelfox HT, Detsky AS, Relationships between authors of clinical practice guidelines and the pharmaceutical industry, *J Am Med Assoc*, 287; 5:612-617, Feb 6, 2002

Laden F, Neas LM, Dockery DW, Schwartz J, Association of fine particulate matter from different sources with daily mortality in six U.S. cities, *Environ Health Persp* 108: 941-947, 2000

Janssen NAH, Schwartz J, Zanobetti A, Suh HH, Air conditioning and source-specific particles as modifiers of the effect of PM10 on hospital admissions for heart and lung disease, *Environ Health Persp* 110; 1:43-49, 2002

Wong CM, Atkinson RW, Lam TH, et al, A tale of two cities: Effects of air pollution on hospital admissions in Hong Kong and London compared, *Environ Health Persp* 110; 1: 67-77, 2002

Rogers SA, *Pain Free in 6 Weeks*, 2001, prestigepublishing.com or 1-800-846-6687

Rogers SA, *No More Heartburn*, 2000, prestigepublishing.com or 1-800-846-6687

Rogers SA , *Depression Cured At Last!*, 1998, prestigepublishing.com or 1-800-846-6687

Gupta P, Kar A, Role of ascorbic acid in cadmium-induced thyroid dysfunction and lipid peroxidation, *J Appl Tox*, 18: 317-320, 1998

O'Reilly DS, Thyroid function tests -- time for a reassessment, *Brit Med J*, 320: 1332-1334, 2000

Wolff MS, Anderson HA, Seilikoff IJ, Human tissue burdens of halogenated aromatic chemicals in Michigan, *J Am Med Assoc*, 247; 15: 2112-16, 1982

Martineau D, Lemberger K, Mikaelian I, et al, Cancer in wildlife, a case study: Beluga from the St. Lawrence estuary, Quebec, Canada, *Environ Health Persp* , 110; 3: 285-92, Mar 2002

Nussbaum E, *Recovery From Cancer*, Avery Publ, Garden City Park, NY, 1992, available 1-800-846-6687

Theriault GP, Tremblay CG, Armstrong BG, Risk of ischemic heart disease among the primary aluminum production workers, *Am J Indust Med* 13: 6 59-66, 1988

Bond JA, Gown AM, Juchau MR, et al, Further investigations of the capacity of polynuclear aromatic hydrocarbons to elicit atherosclerotic lesions, *J Toxicol Environ Health* 7: 3 27-35, 1981

Levine RJ , Andjelkovich DA, Kersteter SL, et al, Heart disease in workers exposed to dinitrotoluene, *J Occup Med* 28: 8 11-16, 1986

Atkins E. H., Baker EL, Exacerbation of coronary artery disease by occupational carbon monoxide exposure: a report of two fatalities and a review of the literature, *Am J Indust Med* , 7: 73-79, 1985

Aronow WS, Stemmer EA, Isbell MW, Effect of carbon monoxide exposure on intermittent claudication, *Circulation* 249: 415-17, 1974

Kesteloot H, Roeland J, Joosens JV, et al, An inquiry into the role of cobalt in the heart disease are chronic beer drinkers, *Circulation* 37: 854-64, 1968

Alexander CS, Cobalt and the heart, *Ann Intern Med* 70: 411-13, 1969

Goldsmith S, Arsenic-induced atypical ventricular tachycardia, *New Engl J Med* 303: 10 96-98, 1980

Klein T. S., Myocardial changes in lead poisoning, *Am J Dis Child* 99: 48, 1960

Myerson RM, Eisenhauer JH, Atrioventricular conduction defects in lead poisoning, *Am J Cardiol* 11: 409-12, 1963

Asokan SK, Experimental lead cardiomyopathy: myocardial structural changes in rats given small amounts of lead. *J Lab Clin Med* 84: 20-25, 1974

Williams BJHejtmancik MR, Abreu M, Cardiac effects of lead. *Fed Proceed* 42: 2989-93, 1983

Mee AS, Wright PL, Congestive (dilated) cardiomyopathy in association with solvent abuse, *J Roy Soc Med* 73: 671-72, 1980

McLeod AA, Marjot R, Jackson G., et al, Chronic cardiac toxicity after inhalation of 1, 1,1-trichloroethane, *Brit Med J* 294: 728-29, 1987

Wiseman MN, ,Barim S, "Blue sniffer's" heart? *Brit Med J* , 294: 739, 1987

Right MS, Strobl DJ, 1, 1,1-trichloroethane cardiac toxicity: report of a case, *J Am Ostroopath Assoc* 84: 285-88, 1984

Speizer FE, Wegman DH, Ramirez A, Palpitation rates associated with fluorocarbon exposure in a hospital setting, *New Engl J Med* , 292: 624-26, 1975

Antti-Poika N, Heikkila J, Saarinen L, Cardiac arrhythmias during occupational exposure to fluoridated hydrocarbons , *Brit J Indust Med* 47: 1 38-40, 1990

Edling C, Ohlson CG, Soderholm B, et al, Cardiac arrhythmia in refrigerator repairman exposed to fluorocarbons, *Brit J Indust Med*, 47: 207-12, 1990

Kobayshi S, Hutchenon DE, Regan J, Cardiopulmonary toxicity of tetrachloroethylene, *J Toxicol Environ Health* 10:23-30, 1982

Ludomirshy A, Klein HO, Sarelli P, et al, Q-T prolongation and polymorphous ("torsade de pointes") ventricular arrhythmias associated with or organophosphorus insecticide poisoning, *Am J Cardiol* 49: 1654-58, 1982

Sharp DS, Becker CE, Smithey AH, Chronic low-level lead exposure: its role in the pathogens is of hypertension, *Med Toxicol* 2: 210-32, 1987

Schroeder H. A., Cadmium, chromium, and cardiovascular disease, *Circulation* 35: 57582, 1967

Kihara T, Biro S, Imamura M, Yoshifuku S, Takasaki K, Ikeda Y, Tei C, et al, Repeated sauna treatment improves the vascular endothelial and cardiac function in patients with chronic heart failure, *J Am Coll Cardiol*, 39; 5:754-9, Mar 2002

Imamura M, Biro S, Tei C, et al, Repeated thermal therapy improves impaired vascular endothelial function in patients with coronary risk factors, *J Am Coll Cardiol*, 38: 1083-88, 2001

Tei C, Horikiri Y, Park JC, et al, Acute hemodynamic improvement by thermal vasodilatation in congestive heart failure, *Circulation* 91: 2582-90, 1995

Tei C, Tanaka N, Thermal vasodilatation as a treatment of congestive heart failure: a novel approach, *J Cardiol* 27: 29-30, 1996

Ikeda Y, Biro S, Kamogawa Y, et al, Repeated thermal therapy operating late arterial endothelial nitric oxide synthase expression in Syrian golden hamsters, *Jpn Circ J*, 65: 434-8, 2001

Henderson GL, Wilson BK, Excretion of methadone and metabolites in human sweat, *Res Comm Chem Psthol Pharmacol* 5; 1: 1-8, Jan 1973

Vree TB, Muskens AT, VanRosum JM, Excretion of amphetamines in human sweat, *Arch Intern Pharmacodyn* 199: 311-17, 1972

Udagawa Y, Nagasawa H, Kiyokawa S, Inhibition by whole-body hyperthermia with far-infrared rays of the growth of spontaneous mammary tumors in mice, *Anticancer Res* 19: 4125-30, 1999

Kreiss K, Zack MM, Jones BT, et al, Association of blood pressure and polychlorinated biphenyl levels, *J Am Med Assoc*, 245: 2505-09, 1981

Chisholm JJ, Safety and efficacy of meso-2,3-dimercaptosuccinic acid (DMSA) in children with elevated blood lead concentrations, *J Toxicol Clin Toxicol* 38:365-375, 2000

Chapter V:

Heuser C, Vojdani A, Enhancement of natural killer cell activity and T and B cell function by buffered vitamin C (ultra potent-C) in patients exposed to toxic chemicals: the role of protein kinase-C, *Immunopharmacol Immunotoxicol* 19:291, 1997

Lenton KJ, Therriault H, Wagner JR, et al, Glutathione and ascorbate are negatively correlated with oxidative DNA damage in human lymphocytes, *Carcinogenesis* 20; 4: 607-613, 1999

Kjellman U, et al, A-ketoglutarate for myocardial protection in heart surgery, *Lancet* 345: 552-553, 1995

Moore SJ, Norris JC, et al, Efficacy of Alpha ketoglutaric acid in antagonism of cyanide intoxication, *Toxicol Appl Pharmacol* 82: 40-44, 1986

Yamamoto, HA, Hyperammonemia, increased brain neutral and aromatic amino acid levels and encephalopathy induced by cyanide in mice, *Toxicol Appl Pharmacol*, 99: 4 15-20, 1989

Pongpaew P, et al , Tobacco smoking in relation to the genotype of alpha-1-antitrypsin and serum vitamin C concentration, *J Nutr Environ Med* 11: 1 67-73, 2001

Kidd KM, Phosphatidyl Choline: a superior protectant against liver damage, *Alt Med Rev* 1; 4: 258-74, 1996

Asai K, *Miracle Cure: Organic Germanium*, Japan Publ, New York, 1980

Goodman S, *Germanium. The Health and Life Enhancer*, Thorson Publ, Northamptonshire UK , 1988

Cotton P, "Best data yet" state air pollution kills below levels currently considered safe, *J Am Med Assoc* 269; 24: 3087-8, June 23, 1993

Kohlenberger JP, *The One-Minute Bible*, Garborg's, Bloomington, MN 55420

QRS references:

Bassett CAL, Mitchell SN, Gaston SR, Pulsing electromagnetic fields treatment in ununited fractures and failed arthrodeses, *J Am Med Assoc* 247: 263-8, 1982

Bassett CAL, Fundamental and practical aspects of therapeutic uses of pulsed electromagnetic fields (PEMFs), *Crit Rev Biomed Eng*, 17; 5: 451-5 29, 1989

Bassett CAL, Schink-Ascani M, Lewis SM, Effects of pulsed electromagnetic fields on Steinberg ratings of the femoral head osteonecrosis, *Clin Orthoped Related Res* 246: 172-185, Sept 1989

Blank M, Findl E, *Mechanistic Approaches to Interactions of Electric and Electromagnetic Fields with Living Systems*, Plenum Press, NY, 1987

Paccagnella F, Ori C, Ceccherelli F, The treatment of chronic benign pain by means of low-frequency pulsating magnetic fields, *Bioelectricity Bioenergetics* 14: 241-244, 1985

Warnke U, The possible role of pulsating magnetic fields in the reduction of pain, *Pain Therapy*, Rizzi R, Visentin M, eds., Elsevier Biomedical Press, 1983

Binder A, Parr G, Hasleman B, Pulsed electromagnetic field therapy of persistent rotator cuff tendonitis, *Lancet* , I; 8379: 695-698 March 1984

- Aaron RK, Lennox D, Bince GE, Ebert T, The conservative treatment of osteonecrosis of the femoral head. Comparison of core decompression and pulsing electromagnetic fields, *Clin Orthoped* 249: 209-16, 1989
- Colbert AP, Markov MS, Banerig M, Pilla AA, Magnetic mattress pad use in patients with the fibromyalgia: a randomized double-blind pilot study, *J Back Musculoskel Rehab* 13: 19-31, 1999
- Foley-Nolan D, Barry C, Coughlan R, Roden D, et al, Pulsed high frequency (27MHz) electromagnetic therapy for persistent neck pain: a double-blind placebo-controlled study off 20 patients, *Orthopedics* 13: 445-51, 1990
- Foley-Nolan D., Moore K, Codd M, et al, Low-energy high frequency pulsed electromagnetic therapy for acute whiplash injuries: a double-blind randomized controlled study, *Scand J Rehab Med* 24: 51-59, 1992
- Malter M, Schriever G, Suss R, et al, Tumoricidal cells increased by pulsating magnetic fields, *Anticancer Res* 7: 3 91-3 94, 1987
- Omote Y, Hosokawa M, Kobayashi, H, et al, Treatment of experimental tumors with a combination of a pulsing magnetic fields and an antitumor drug, *Jpn J Cancer Res*, 81: 956-61, Sept 1990
- Walleczek J, Electromagnetic field effects on cells of the immune system: the role of calcium signaling, *FASEB J*, 6: 3177-85, Oct 1992
- Becker RO, *The Body Electric*, William Morrow, New York 1985
- Ledlev VV, Possible mechanism for the influence of weak magnetic fields on biological systems, *Bioelectromagnetics* 12: 71-75, 1991
- Hinsenkamp M, Chiabrera A, Pilla AA, Bassett CAL, Cell behavior and DNA modifications in pulsing electromagnetic fields, *Acta Orthopaedica Belgica* 44:5: 636-50, 1978
- Yen-Patton GPA, Patton WF, Beer DM, Jacobson BS, Endothelial cell responds to pulsed electromagnetic fields: Stimulation of growth rate and angiogenesis in vitro, *J Cell Physiol* 134: 37-46, 1988
- Leran M, Zaffuto S, Cadossi R, et al, Effect of low-frequency pulsing electromagnetic fields on skin ulcers of venous origin in humans: a double-blind study, *J Orthoped Res* 8:276-82, 1990

Kloth LC, Berman JE, Epner ME, et al, Effect of pulsed radiofrequency stimulation on wound healing: a double-blind pilot clinical study, in *Electricity and Magnetism in Biology and Medicine*, Bersani F, ed, Plenum, New York, pp. 875-878

Stiller MJ, Pak GH, Jondreau L, et al, A portable pulsed electromagnetic field (pemf) devise to enhance healing of recalcitrant venous ulcers: a double-blind, placebo-controlled clinical trial, *Brit J Derm* 127: 147-154, 1989

Trock DH, Bollett RH, Markol R, et al, A double-blind trial of the clinical effects of pulsed electromagnetic fields in osteoarthritis, *J Rheumatol* 20: 456-68, 1993

Vallbona C, Haywood CF, Jurida G, Response of pain to static magnetic fields in post-polio patients: a double-blind pilot study, *Arch Phys Med Rehab* 78: 1200-3, 1997

Rusovan A, Kanje M, Mild KH, The stimulatory effect of magnetic fields on regeneration of the rat sciatic nerve is frequency dependent, *Exp Neurol* 117: 81-84, 1992

McDevitt LP, Fortner P, Pomeranz B, Application of weak electrical field to the hind paw enhances sciatic motor-nerve regeneration in the adult rat, *Brain Res* 416: 308-14, 1987

Raji ARM, Bowden REM, Effects of high peak pulsed electromagnetic field on the generation and regeneration of the common peroneal nerves in rats, *Lancet* , 444-5, Aug. 21, 1982

Wilson H, Jagadeesh P, Experimental regeneration in peripheral nerves and the spinal cord in laboratory animals exposed to a pulsed electromagnetic fields, *J Internat Med Soc Paraplegia* 14: 12-20, 1976

Greenbaum B, Sutton C, Siskin BF, et al, Effects of pulsed magnetic fields on neurite outgrowth from chick embryos, *Bioelectromagnetics*, 17 : 293-302, 1996

Siskin BF, Kanje M, Kurtz W, et al, Pulsed electromagnetic fields stimulate nerve regeneration in vivo and in vitro, *Restorative Neurol Neurosci* 1: 303-309, 1990

Siskin BF, Kanje M, Kurtz W, et al, Stimulation of rat sciatic nerve regeneration with pulsed electromagnetic fields, *Brain Res* 485: 309-16, 1989 to

Rubin C. T., McLeod KJ, Lanyon LE, Prevention of osteoporosis by pulsed electromagnetic fields, *J Bone Joint Surg*, 71; 3:411-417, Mar 1989

Azanza MJ, Moral AD, Cell membrane biochemistry and neurobiological approach to biomagnetism, *Progress in Neurobiology* 44: 517-601, 1994

- Madronero A, Influence of magnetic fields on calcium salts crystal formation: an explanation of the 'pulsed electromagnetic field' technique for bone healing, *J Biomed of Eng* 12: 4 10-4 12, 1990
- Devereaux MD, Hazleman BL, Thomas B, Chronic lateral humeral epicondylitis -- a double blind controlled assessment of pulsed electromagnetic field therapy, *Clin Exp Rheumatol* 3: 333, 1985
- Mooney V, A randomized double-blind prospective study of the efficacy of pulsed electromagnetic fields interbody lumbar fusions, *Spine* 15: 708-712, 1990
- Pennington GM, Danley DL, Sumko MH, et al, Pulsed, non-thermal, high frequency electromagnetic energy (Diapulse)) in the treatment of grade I and grade II ankle sprains, *Military Med* 158: 101-104, 1993
- Pilla AA, Figueiredo M, Siffert RS A clinically effective pulsed EMF signal accelerates fresh fractured repair in a rabbit model, *Trans ORS* 17: 529, 1992
- Pilla AA, Martin DE, Schuett AM, et al, Effect of pulsed radiofrequency therapy on edema from grades I and II ankle sprains: a placebo-controlled, randomized, multi-site, double-blind clinical study, *J Athl Train*, s31:53, 1996
- Rinaldi E, Negri V, Marengi P, et al, Treatment of infected pseudoarthrosis of the inferior limb with low-frequency pulsing electromagnetic fields: report of 16 cases, *J Bioelectricity* 4/1: 251-64, 1985
- Ryaby JT, Clinical effects of electromagnetic and electric fields on fracture healing, *Clin Orthoped*, s205, 1998
- Salzberg CA, Cooper AS, Byrne DW, et al, The effects of non-thermal pulsed electromagnetic energy on wound healing of pressure ulcers in the spinal cord-injured patients: a randomized, double-blind study, *Ostomy Wound Management* 41:42-51, 1995
- Sharrard WJW, A double-blind trial of pulsed electromagnetic fields for delayed union of tibial fractures, *J Bone Joint Surg*, 72S: 347-52, May 1990
- Devereaux, MD, Hazleman BL, Thomas PP, Chronic lateral humeral epicondylitis--a double-blind controlled assessment of pulsed electromagnetic fields therapy, *Clin Experim Rheumatol* 3:333-336, 1985
- Binder A, Parr G, Hazleman B, et al., Pulsed electromagnetic fields therapy of persistent rotator cuff tendonitis, *Lancet*, 697-698, Mar 31, 1984

Gossling HR, Bernstein RA, Abbott J, Treatment of ununited tibial fractures: a comparison of surgery and pulsed electromagnetic fields, *Orthopedics*, 15; 6:711-719, June 1992

Lee EWC, et al., Pulsed magnetic and electromagnetic fields in experimental Achilles tendonitis in the rat: a perspective randomized study, *Arch Phys Med Rehab*, 78: 399-404, Apr 1997

Sandyk R, Magnetic fields in the therapy of Parkinsonism, *Internat J Neurosci*, 66: 209-235, 1992

Sandyk R, Successful treatment of multiple sclerosis with magnetic fields, *Internat J Neurosci*, 66: 237-2500, 1992

Jacobson JI, Yamanashi WS, Saxena BB, et al, Effect of magnetic fields on damaged mice sciatic nerves, *Administ Radiol J*, 22-25, Mar/Apr 2000

Jacobson JI, Gorman R, Clayton L, et al. Low-amplitude, extremely low-frequency magnetic fields for the treatment of osteoarthritic knees: a double-blind clinical study, *Altern Ther*, 7; 5: 54-69, Sept/Oct 2001

Fukada E, Yasuda I, On the piezoelectric effect of bone, *J Physical Soc Japan* 12; 10: 1158-62, Oct. 1957

MacGinitie L, Streaming and piezoelectric potentials in connective tissues. In: Blank M., ed, *Electromagnetic Fields: Biological Interactions and Mechanisms*, Washington D.C., American Chemical Society 497, 1995

Brighton CT, Pollack SR, Eds., *Electromagnetics In Medicine and Biology*, San Francisco Press, Box 6800, San Francisco, 1991

Creuss RL, Kan K, Bassett CAL, The effect of pulsating electromagnetic fields on bone metabolism in experimental disuse osteoporosis, *Crit Orthopaed Relat Res*, 173: 245-250, Mar 1983

Skerry TM, Pead MJ, Lanyon LE, Modulation of bone loss during disuse by pulsed electromagnetic fields, *J Orthopaedic Res*, 9; 4: 600-608, 1991

McLeod KJ, Donahue HJ, Rubin CT, Low-frequency sinusoidal electric fields alter calcium fluctuations in osteoblast-like cells. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 111-16, San Francisco Press, San Francisco, 1991

SubramanianM, Sutton CH, Greenebaum B, Siskin BF, Interaction of electromagnetic fields and nerve growth factor on nerve regeneration in vitro. In:

C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, p. 145-52, San Francisco Press, San Francisco, 1991

Grande DA, Magee FP, Weinstein AM, McLeod BR, The effect of low-energy combined AC and DC magnetic field on articular cartilage metabolism. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, p. 191-93, San Francisco Press, San Francisco, 1991

Trillo MA, Ubeda A, Chacon L, Leal J, Week pulsed magnetic fields and hyaluronidase enzymes provoke similar effects on early chicken embryos. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 195-97, San Francisco Press, San Francisco, 1991

Im MJ, Hoopes JE, Effects of electrical stimulation on ischemia/reperfusion injury in rats skin. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 211-13, San Francisco Press, San Francisco, 1991

Miklavcic D, Rebersek S, Sersa G, Novakovick S, Nonthermal antitumor effect of electrical direct current on murine fibrosarcoma SA-1 tumor model. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 2 22-24 San Francisco Press, San Francisco, 1991

Sisken B, Electrical and pulsed electromagnetic field effects on nerve tissue regeneration. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 259-73, San Francisco Press, San Francisco, 1991

Canaday DJ, Lee RC, Scientific basis for clinical applications of electric fields in soft-tissue repair. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 275-91, San Francisco Press, San Francisco, 1991

Kennedy WF, Roberts CG, Zuege RC, Dicus WT, Use of pulsed electromagnetic fields in the treatment of loose hip prostheses. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 313-22 San Francisco Press, San Francisco, 1991

Mammi GI, Rocchi R, Cadossi R, Traina GC, Effects of low-frequency pulsed electromagnetic fields on the healing of human knee osteotomies: A double-blind study. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 323-26, San Francisco Press, San Francisco, 1991

McDonald MK, Bonneau MJH, Tightening a loosened hip prosthesis using capacitively coupled electric fields: a case report. In: C.T. Brighton and SR Pollack, Eds., *Electromagnetics in Biology and Medicine*, P. 327-30, San Francisco Press, San Francisco, 1991

BioSil references:

Carlisle EM, In vivo requirement for silicon in articular cartilage and connective tissue formation in the chick, *J Nutr* 106:478-484, 1970

Carlisle EM, Silicon: A possible growth factor in bone calcification, *Sci* 167:279-80, 1970

Carlisle EM, Curran MJ, Effect of dietary silicon and aluminum on silicon and aluminum levels in rat brain, *Alzheimer Diseases and Associated Disorders*, 1:83-9, 1987

Eisinger J, Clairet D, Effects of silicon, fluoride, etidronate and magnesium on bone mineral density: a retrospective study, *Magnesium Research*, 6:247-9, 1993

Calomme MR, Cos P, Vanden Berge DA, et al, Comparative bioavailability study of silicon supplements in healthy subjects, *J Parental Enteral Nutr* 22:228-233, 1998

Hott M, de Pollak C, Short-term effects of organic silicon on trabecular bone in mature ovariectomized rats, *Calcified Tissue International*, 53:174-9, 1993

Loeper J, Goy-Loeper J, et al, The antiatheromatous action of silicon, *Atherosclerosis*, 33:397-408, 1979

Schwarz K, A bound form of silicon in glycosaminoglycans and polyuronides, *Proc Natl Acad Sci* 70:1608-1612, 1973

Williams RJ, Introduction to silicon chemistry and biochemistry, in *Silicon Biochemistry*, CIBA Foundation Symposium 121, John Wiley & Sons, NY 24-39

Broadhurst CL, Calomme MR, Rogovin JL, *Silicon: Making the Connection*, Jarrow Formulas, Los Angeles, 1997

Carlisle EM, Silicon: a requirement in bone formation independent of vitamin D, *Calcified Tiss Internat* 33: 27-34, 1981

Peluso MR, Schneeman BO, A food-grade silicon dioxide is hypocholesterolemic in the diet of cholesterol-fed rats, *J Nutr*, 124; 6: 853-860, June 1994

Roberts NB, Clough A, Bellia JP, Kim JY, Increased absorption of aluminum from a normal dietary intake in dementia, *J Inorganic Biochem*, 69; 3: 171-176, Feb 15, 1998

Schwarz K, A bound form of silicon in glycosaminoglycans and polyuronides, *Proc Nat Acad Sci USA*, 70: 1608-1612, 1973

Schwarz K, Silicon, fiber, and atherosclerosis, *Lancet* 1;8009:454-457, Feb. 26,1977

Schwarz K, Ricci BA, Punsar S, Karvonen MJ, Inverse relation of silicon in drinking water and atherosclerosis in Finland, *Lancet*, 1; 8010: 538-589, March 5, 1977

Shield MJ, Anti-inflammatory drugs and their effects on cartilage synthesis and renal function, *Eur J Rheumatol Inflamm* 13: 7-16, 1993

References for Closing:

Willett WC, Harvesting the fruits of research: New guidelines on nutrition and physical activity, *CA, A Cancer Journal for Clinicians*, 52;2:66-67, Mar/Apr 2002

Byers T, Nestle M, American Cancer society, et al, American Cancer Society guidelines on nutrition and physical activity for cancer prevention: *CA, A Cancer Journal for Clinicians*, 52;2: 92-119, Mar/Apr 2002

Rinsky RA, Smith AB, Landrigan PJ, et al, Benzene and leukemia, *New Engl J Med*, 316: 1044-50, 1987

Martineau D, Lemberger K, Mikaelian I, et al, Cancer in wildlife, a case study: beluga from the St. Lawrence estuary, Quebec, Canada, *Environ Health Persp* 110: 285-92, 2002

Schultz EE, Francis T, Worker dies, farm profits – why? Many companies insure staff, yielding benefits on taxes, bottom line, *Wall Street J*, A 1, A 8 Apr 19, 2002

Burton TM, Johannes L, Diet may reverse prostate cancer, *Wall Street J*, D8, Apr 11, 2002

Yoo HJ, Sepkovic DW, Schantz SP, et al, Estrogen metabolism as a risk factor for head and neck cancer, *Otolaryngol Head Neck Surg* 124; 3: 241-47, 2001

Bradlow HL, Davis DL, Lin G, Sepkovic D, Tiwari R, Effects of pesticides on the ratio of 16alpha/2-hydroxyestrone: a biologic marker of breast cancer risk, *Environ Health Persp*, 103 suppl 7: 147-50, Oct 1995

INDEX

1

16-Hydroxylase estrogen, 72

A

Accidents, 161, 195, 286, 301, 302
Acetaldehyde, 42, 94
Acrylates, 25, 144
AEHF, 22, 25, 40, 168, 169, 250, 256,
257, 322, 324
Agent Orange, 3, 132, 136, 194, 213,
235
Aging, 7, 21, 46, 52, 53, 56, 57, 62, 82,
89, 100, 114, 118, 121, 122, 126, 129,
133, 143, 153, 167, 185, 188, 202,
274, 277, 306, 309, 340
Air fresheners, 16, 187, 205
Alcohol dehydrogenase, 48, 181
Aldehyde oxidase, 48, 181
Alkaline Water Machine, 22, 23, 25, 324
Allergies, 7, 11, 62, 83, 90, 112, 113,
122, 140, 158, 167, 187, 224, 281,
347
ALS, 28, 104, 107, 136, 167
Aluminum, 8, 91, 92, 127, 149, 192,
222, 267, 308, 321
Aluminum trisilicate, 308
Amalgams, 116, 145, 205
American Academy of Pediatrics, 156
American Petroleum Institute, 155
Angina, 118, 142, 167, 202, 203, 211,
225, 339, 342
Antimony, 8, 149
Arrhythmia, 7, 26, 96, 152, 172, 203,
211, 219, 225, 251, 256, 266, 278,
339
Arsenic, 8, 26, 131, 149, 192, 236
Arteriosclerosis, 7, 21, 74, 112, 146,
305, 309
Arthritis, 7, 13, 19, 75, 88, 89, 90, 112,
117, 119, 167, 202, 227, 298, 340,
341, 342, 346, 347

Asthma, 11, 13, 89, 96, 112, 113, 167,
188, 339, 341, 342
Atrazine, 7, 29, 97, 198
Atrial fibrillation, 89, 90, 203, 251, 257
Autism, 104, 167
Autonomic nervous system, 171, 198,
243, 283

B

B12, 156, 270
Benign prostatic hypertrophy, 7, 90,
118, 119
Benzene, 11, 14, 16, 38, 42, 45, 94, 99,
130, 132, 135, 155, 187, 205, 224
Biochemical individuality, 163
BioSil, 263, 304, 310, 329
Bio-Throid, 127
Birdseed breakfast, 58
Birth defects, 19, 130, 280
Bisphenol-A, 36
Blurred vision, 96
Body aches, 14, 73
Body burning, 91, 144
Bone cancers, 19
Borage GLA-240, 269
Boron, 15, 263
Brain fog, 13, 95, 102, 104, 135, 166,
182, 187, 191, 219, 265, 338
Bralley, Andy Ph.D., 175, 272
Brassica, 69, 70, 169
Breast, 1, 2, 3, 5, 8, 26, 31, 37, 39, 44,
70, 90, 98, 100, 114, 116, 154, 156,
157, 158, 159, 160, 163, 164, 167,
190, 224, 234, 237, 274, 305
Breath analysis, 32, 53, 105
Bronchitis, 14, 167, 187, 204
Butadiene, 14, 42, 94

C

Cadmium, 26, 76, 91, 99, 115, 116, 117,
118, 119, 120, 121, 122, 126, 127,
138, 147, 149, 157, 158, 161, 166,

171, 174, 190, 192, 205, 222, 231,
233, 234, 264, 267, 288
Calcium channel blocker, 172, 188, 190,
204, 225, 229
Calcium D-glucarate, 189
Cancer, 1, 3, 7, 8, 9, 19, 20, 26, 28, 29,
30, 31, 37, 43, 47, 50, 52, 53, 54, 55,
56, 58, 60, 66, 68, 69, 70, 72, 79, 81,
84, 88, 89, 90, 91, 92, 93, 94, 98, 99,
100, 102, 104, 112, 113, 115, 117,
118, 119, 120, 121, 122, 124, 127,
130, 131, 132, 133, 135, 136, 138,
149, 154, 155, 158, 160, 161, 162,
163, 164, 167, 170, 172, 173, 174,
175, 179, 181, 185, 186, 188, 190,
196, 201, 203, 204, 208, 219, 220,
223, 224, 226, 227, 233, 234, 238,
273, 274, 281, 282, 288, 296, 302,
306, 311, 315, 322, 338, 339, 340,
344, 347
Candida, 53, 80, 86, 87, 123, 139, 144,
266, 271, 273, 322, 337, 338, 342,
344, 347
Captomer-250, 149, 150, 152, 330
Cardiomyopathy, 167, 229, 242
Carpet, 10, 14, 17, 42, 76, 94, 95, 96
Cellophane, 159, 168
Chemical sensitivity, 79, 91, 102, 140,
167, 196, 201, 219, 265, 281, 283,
337, 338, 339, 344
Childhood cancer, 3, 113
Chloral hydrate, 182
Chlordane, 27, 29
Chlorine, 21, 29, 31, 116, 132
Chloroform, 16, 22, 42, 94
Cholesterol, 7, 21, 53, 54, 55, 57, 89,
117, 118, 122, 126, 135, 140, 145,
146, 147, 167, 171, 203, 229, 265,
305, 339, 343
Choline, 189, 265
Chronic fatigue syndrome, 26, 31, 167
Citrobacter, 80
Cod Liver Oil, 63, 255, 262, 269
Colitis, 7, 88, 89, 90, 112, 167, 188,
207, 298, 339, 341, 342, 347
Computers, 15, 43, 46, 129, 201
Congestive heart failure, 88, 90, 146,
152, 171, 172, 199, 203, 205, 210,

213, 225, 226, 228, 229, 232, 240,
243
Convulsions, 96
Copper, 22, 48, 147, 150, 234, 256, 259,
263, 267
CoQ10, 189, 242, 261
Coral Calcium, 250, 256, 257, 311
Corn Syrup, 97
Cruciferous, 69
Culturelle, 86, 262
Cysteine, 48, 77, 79, 184, 186, 189, 254
Cysts, 158, 163, 305
Cyto-Redoxin, 77, 78, 151, 325

D

DDT, 7, 28, 29, 30, 89, 97, 113, 114
Degenerating disks, 89, 167
Dementia, 104
Demyelinating diseases, 134
Dental crowns, 90, 116
Depression, 5, 11, 13, 14, 28, 35, 76, 89,
90, 91, 92, 102, 104, 114, 118, 126,
135, 136, 140, 143, 146, 152, 166,
190, 219, 229, 230, 251, 312, 341,
342, 345
Detergents, 7, 97, 99, 170, 173, 274
Detox cocktail, 50, 51, 52, 65, 66, 73,
75, 76, 77, 78, 88, 103, 109, 121, 125,
148, 150, 151, 169, 184, 192, 244,
254, 259, 260, 261, 264, 276, 279,
310, 311
Detox enema, 65, 66, 150, 151, 262
Detox system, 167, 283
Detoxification, 21, 22, 29, 47, 50, 61,
64, 65, 66, 67, 69, 70, 75, 77, 79, 83,
85, 86, 88, 91, 92, 94, 107, 136, 139,
150, 167, 175, 177, 179, 181, 182,
186, 189, 190, 196, 212, 214, 221,
222, 239, 243, 260, 261, 262, 265,
269, 270, 277, 303, 304, 311, 338,
347
Detoxification Capability Panel, 149,
264
DGLA, 269
DHA, 63, 255, 269, 292, 327
DHEA, 261, 333
Diabetes, 7, 74, 89, 112, 167, 349

Diesel exhaust, 11, 187, 190, 241
 Digestive and Microbial Stool Panel, 86, 139, 273
 Dioxins, 1, 7, 9, 30, 39, 43, 45, 99, 122, 124, 132, 136, 137, 138, 153, 160, 162, 194, 219, 222, 224, 226, 231, 237
 Dizziness, 147, 219, 248
 Drinking water, 19, 21, 22, 24, 36, 42, 43, 99, 105, 116, 133, 136, 233, 239
 Drug addiction, 34, 193

E

Eczema, 89, 167, 339
 EKG, 285, 307
 Electromagnetic fields, 214, 286, 287, 293, 295, 296, 299, 300
 Encephalopathy, 95, 338
 Endometriosis, 5, 44, 158, 160, 163, 167, 218, 219, 220, 231, 240
 Environmental endocrine disruptors, 5, 7, 29, 69, 157, 159, 161
 Epilepsy, 76
 Erythromelalgia, 167
 Esophagitis, 89
 Essential Formula, 86, 262
 Estrogen, 4, 37, 69, 70, 71, 97, 146, 158, 161, 170, 173, 237, 273, 274, 288
 Estrogen mimics, 37, 69, 70, 97, 274, 288
 Estronex Test, 72, 173, 273, 321

F

Far infrared sauna, 199, 200, 202, 206, 207, 210, 212, 213, 214, 216, 223, 225, 226, 227, 228, 230, 244, 249, 266, 278, 283, 324
 Fatigue, 5, 26, 28, 31, 76, 83, 89, 90, 91, 96, 114, 115, 142, 144, 146, 167, 193, 199, 201, 229, 281, 341, 342, 344, 347
 Fatty acids, 58, 60, 61, 62, 63, 64, 122, 127, 147, 157, 162, 165, 169, 172, 174, 222, 225, 265, 268, 271, 275, 283, 291, 292, 293, 294, 304, 311, 321

Fibromyalgia, 26, 28, 83, 89, 91, 113, 144, 167, 199, 201, 281, 300, 340, 341, 342, 347
 Firemen, 192, 194, 239
 Fluoride, 19, 21, 122
 Folical, 255
 Formaldehyde, 11, 13, 14, 15, 16, 18, 42, 94, 144, 205, 335
 Formaldehyde insulation, 13
 Free radicals, 23, 52, 53, 56, 57, 60, 65, 74, 86, 100, 105, 171, 274, 276, 277

G

Gender confusion, 34
 GERD, 89, 167
 Glucosaminoglycans, 306
 Glutamic acid, 48, 186, 189
 Glutathione, 47, 48, 49, 50, 56, 57, 65, 66, 67, 74, 75, 77, 78, 79, 81, 109, 182, 184, 185, 186, 187, 189, 254, 260, 269, 270, 275
 Glycine, 48, 75, 76, 184, 186, 189
 Growth retardation, 113

H

Hair loss, 96
 Harvard, 58, 63, 113, 171, 185, 282, 289, 344
 HCB, 7, 213
 Headache, 47, 53, 76, 77, 147, 191, 248
 Hearing loss, 89, 96, 143, 220
 Heart attack, 7, 11, 26, 51, 63, 74, 88, 135, 144, 147, 154, 163, 164, 171, 172, 204, 213, 220, 251, 257, 266, 274, 278, 308, 347
 Heart disease, 58, 60, 90, 127, 140, 175, 201, 205, 213, 220, 265, 342, 343
 Heart failure, 7, 54, 88, 89, 90, 146, 152, 167, 171, 172, 199, 203, 205, 206, 207, 210, 213, 225, 226, 228, 229, 232, 240, 242, 243
 Heavy metals, 8, 11, 19, 24, 45, 50, 79, 81, 89, 99, 115, 117, 118, 122, 125, 127, 141, 149, 150, 152, 158, 161, 170, 171, 192, 199, 205, 222, 224, 226, 228, 267, 268, 288, 292, 321

Hepatitis, 74, 91, 131, 167
 Herbicides, 10, 27, 100, 111, 131, 138, 153, 198, 205
 High blood pressure, 7, 54, 89, 90, 146, 167, 172, 189, 204, 205, 220, 225, 229, 243, 339
 High cholesterol, 7, 89, 118, 122, 126, 140, 145, 147, 167, 171, 203, 265, 339, 343
 High Tech Health, 22, 25, 40, 169, 214, 250, 289, 324, 334
 Hippuric acid, 76, 130, 187
 Hormone mimics, 5, 7, 16, 29, 33, 34, 35, 70, 97, 98, 99, 147, 160, 164, 173, 274
 Hormone receptors, 2, 5, 19, 62, 70, 98, 122, 127, 162, 164, 165, 171, 281
 Hubbard, 192, 193, 194, 225, 240
 Hydrate II, 310, 333
 Hydrogenation, 60, 61
 Hyperactivity, 2, 34, 98, 124
 Hypertension, 91, 115, 117, 118, 187, 190, 202, 206, 225, 342
 Hypothyroidism, 98, 122, 127

I

Immune system, 11, 24, 29, 33, 80, 83, 84, 111, 112, 113, 139, 157, 167, 181, 296, 311, 338, 347
 Incinerators, 9, 11, 45, 133, 137, 159
 IndolPlex, 65, 67, 70, 72, 151, 169, 173, 189, 260, 261, 269, 273, 325
 Infections, 11, 15, 66, 74, 89, 90, 112, 113, 118, 140, 144, 158, 167, 224, 341
 Infertility, 5, 34, 44, 98, 121, 158, 161, 163, 165, 167, 218, 219, 280
 Insecticides, 10, 14, 27
 Insomnia, 167, 290
 Insurance, 216, 222, 223, 228, 229, 339, 346
 Intestinal Metabolic Markers, 86, 273
 ION Test, 275, 321
 IQ, 220, 241
 Irritable bowel, 89, 113, 167, 262, 347
 Isotherm, 13

J

Jet fuel, 91
 Johnson, Bill, 234, 324
 Joint replacement, 228, 288, 309

K

Kidney stones, 305
 Klebsiella, 80
 Kushi, 69, 320, 342
 Kyolic, 81, 82, 85, 260, 261, 262, 327

L

Lactic acid, 73, 209
 Latex, 39, 42, 94
 Lead, 8, 25, 37, 51, 78, 107, 112, 118, 121, 123, 126, 138, 139, 145, 149, 165, 168, 220, 222, 234, 241, 266, 267, 281, 304, 308, 315, 346
 Leaky gut syndrome, 83, 345
 Learning disability, 2, 19, 35, 76, 98, 104, 105, 111, 113, 124, 149, 167
 Leukemia, 24, 38, 91, 95, 99, 106, 130, 132, 140, 155, 186, 219, 224, 239
 Lindane, 7, 29
 Lipid peroxides, 56, 275, 321
 Lipoic acid, 48, 72, 73, 74, 75, 78, 79, 182, 254, 260, 270, 326, 328
 Liver cancer, 76, 185, 219
 Lord, Richard Ph.D., 175, 272
 Loss of libido, 5, 89
 Lung, 2, 99, 112, 114, 115, 117, 118, 167, 175, 241
 Lupron, 154, 160, 219
 Lymph Tonic III, 310
 Lymphomas, 155

M

Magnesium, 147, 150, 183, 187, 188, 190, 222, 229, 247, 248, 251, 252, 253, 254, 256, 257, 259, 267, 279, 304, 307, 311
 Magnesium Chloride Solution, 252, 253, 326

Manganese, 48, 150, 222, 254, 259, 263, 267
 Mayo Clinic, 206, 210, 213, 225, 226, 227
 Memory loss, 5, 39, 91, 95, 104, 136
 Mercury, 8, 26, 90, 141, 143, 144, 145, 148, 234, 236, 237
 MetaMetrix, 56, 63, 71, 72, 76, 86, 139, 148, 149, 152, 165, 166, 255, 264, 266, 268, 269, 271, 272, 273, 274, 275, 321
 Methacrylates, 14
 Methylcobalamin, 270
 Microhydrin, 260, 332
 Migraines, 14, 26, 119, 167, 188, 201, 203, 340, 341, 342, 346
 Mitochondrial membrane, 62, 236
 Molybdenum, 134, 150, 181, 183, 259, 263, 267
 Mood swings, 5, 14, 39, 95, 156
 Multiple myeloma, 155
 Multiple sclerosis, 7, 28, 91, 107, 112, 134, 140, 143, 167, 237, 288, 299, 341
 Muscle aches, 102

N

N-acetyl cysteine, 77, 79, 189, 254
 Natural Calm, 253
 Natural killer cells, 50, 302
 Natural Lifestyle, 25, 40, 59, 103, 169, 320, 336
 Nausea, 13, 14, 248, 258
 Nerve damage, 31, 74
 Neuropathy, 136, 143, 144, 167
 Non-union fractures, 286, 287, 296
 NSAIDs, 84, 228, 232, 288
 Number one public health enemy, 127
 Nussbaum, 68, 282

O

Oil change, 62, 64, 172, 173, 222
 Organic Acids, 166, 270
 Osteoarthritis, 167, 300
 Osteomyelitis, 287

Osteoporosis, 7, 19, 24, 26, 89, 90, 91, 115, 117, 118, 228, 288, 289, 290, 297, 299, 302, 303, 304, 305, 308, 309, 340, 349
 Osteosarcoma, 20

P

Pain syndromes, 95, 119, 201, 213, 293
 Paralyzed, 181, 194, 302, 305
 Paresthesias, 104, 135, 136
 PCBs, 1, 7, 9, 30, 39, 43, 45, 97, 115, 116, 122, 124, 125, 132, 133, 136, 160, 162, 170, 172, 192, 194, 195, 213, 221, 222, 224, 225, 226, 228, 235, 239, 281
 Pentanes, 16
 Perchloroethylene, 38, 99, 224
 Perfect medical crime, 126
 Pericarditis, 203
 Peripheral neuropathies, 105
 Pesticides, 3, 7, 8, 10, 11, 16, 24, 26, 28, 29, 30, 31, 32, 33, 34, 35, 45, 58, 60, 67, 90, 97, 99, 102, 103, 110, 111, 113, 114, 116, 131, 132, 136, 157, 158, 160, 161, 162, 165, 169, 170, 173, 174, 192, 194, 195, 196, 199, 205, 221, 222, 224, 226, 228, 233, 239, 274, 276, 281, 335
 pH, 23, 24
 Phase I, 47, 48, 65, 69, 75, 77, 81, 134, 181, 182, 183, 184, 188, 190, 260, 261
 Phase II, 47, 48, 69, 75, 81, 181, 183, 184, 188, 190, 260, 261
 Phenols, 15, 16, 26
 PhosChol, 255, 262, 331
 Phthalates, 2, 4, 5, 6, 7, 11, 31, 37, 39, 44, 69, 76, 98, 122, 124, 130, 138, 158, 159, 160, 162, 163, 194, 224, 237, 238, 329
 Piezo-electricity, 297
 Plastic, 1, 2, 4, 6, 10, 15, 25, 36, 37, 43, 69, 96, 98, 111, 138, 153, 159, 160, 162, 165, 168, 170, 253, 274
 Plastic penises, 165
 Plasticizer, 36, 37, 158, 159
 PMS, 44, 163

Polycarbonate, 36
 Polycystic ovaries, 44, 167
 Potassium Citrate, 256, 258, 279
 Practice guidelines, 109, 155, 222, 226, 229, 241
 Prostate, 2, 5, 8, 37, 44, 70, 91, 99, 115, 117, 118, 119, 120, 121, 144, 154, 160, 163, 164, 167, 171, 174, 190, 233, 274
 Prozac, 21, 122, 136, 139, 230, 345
 PVC, 25, 129

Q

QRS, 281, 284, 285, 289, 290, 291, 292, 293, 294, 295, 297, 299, 301, 302, 303, 304, 324

R

Rashes, 15, 96
 Rea, William, M.D., 10, 14, 22, 42, 105, 193, 196, 197, 198, 225, 234, 238, 239, 324
 Regeneration, 145, 286, 289, 295, 300, 301, 302
 Rheumatoid arthritis, 7, 112, 167, 227, 341, 342
 Ringing in the ears, 118, 119
 Root canals, 26, 214
 Rotator cuff, 287, 299
 Rotenone, 110

S

Schizophrenia, 34, 76, 104, 140, 166
 SeaVive, 83, 84, 85, 262, 332
 Selenium, 74, 77, 79, 120, 122, 127, 148, 183, 222, 236, 254, 259, 263, 267
 Serotonin, 139, 143, 190, 229
 Silicon, 295, 304, 305, 306, 307, 309, 310, 329
 Silicone, 26, 281
 Sinusitis, 144, 167, 339
 Slow acetylators, 188
 Solvents, 14, 38, 99, 134, 136, 234, 235
 Soybean, 60, 127, 161, 172, 269

Spontaneous abortion, 114
 Stomach problems, 14
 Styrene, 3, 9, 14, 42, 43, 91, 92, 94, 96, 97, 98, 138, 153, 181, 224, 236
 Styrofoam, 2, 3, 96, 98, 138, 153, 159
 Superoxide dismutase, 48, 57, 81
 Swelling, 152, 203, 204, 210, 245, 292, 293, 298, 300

T

Tachycardia, 90, 251
 Taste, 18, 63, 77, 253
 Taurine, 74, 183, 184, 189, 269
 TCE, 24, 99, 105, 106, 174
 Teflon, 305
 Tendonitis, 91, 167, 299
 Tennis elbow, 142, 287, 289, 290, 302
 Testicles, 5, 44, 118, 119, 121, 142, 157, 163
 Testosterone, 21, 120, 146, 164, 274
 Thyroid, 2, 4, 6, 8, 9, 35, 37, 70, 98, 99, 114, 121, 122, 123, 124, 125, 126, 127, 128, 129, 134, 142, 154, 163, 231, 292
 Thyroiditis, 7, 91, 123, 167, 225
 Toluene, 11, 14, 16, 39, 42, 45, 76, 94, 134, 144, 187, 205
 Toluene diisocyanate, 39
 Trans fatty acids, 58, 60, 61, 62, 63, 64, 122, 127, 147, 157, 162, 165, 169, 172, 222, 268, 292, 321
 Tremors, 96
 Trichloroethylene, 7, 16, 38, 42, 47, 74, 97, 99, 105, 144, 161, 181, 205, 219, 224, 231, 240
 Trimethylbenzene, 16

V

Vinyl benzene, 130
 Vinyl chloride, 91, 130, 181
 Vinylidene, 25
 Violence, 34
 Vital, 86, 262
 Vitamin C, 48, 50, 51, 57, 65, 74, 125, 182, 254, 260
 Vitamin E, 51, 57, 61, 74, 182

Volatile organic hydrocarbons, 11, 89,
171, 222, 224, 276

W

Water filter, 25, 169, 334
Weakness, 90, 95, 96, 248, 251
Willett, 63
Wobenzyme, 250, 259, 326
World Trade Center, 133, 167

X

Xenoestrogens, 96
Xylene, 14, 16, 42, 43, 92, 94, 100, 138,
153, 224

Z

Zinc, 48, 77, 119, 122, 127, 150, 181,
183, 222, 234, 254, 256, 259, 267
Zinc Balance, 250, 256, 311, 329